FUTURE OF BRITISH CANALS

See Pages 2 and 3

MODERN TRANSPORT

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See Page 5

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CURRENT TOPICS

Freedom of the Motorway

SMALL economic benefit may accrue to road operators from last week's announcement by the Minister of Transport that he is prepared to authorise goods and public service vehicles, without speed restriction, on the Preston by-pass, Britain's first section of motorway, but his decision will be acclaimed for future expectations rather than present realisation. The by-pass is only eight miles long; it should be opened in November. Mr. Watkinson's new order and regulations covering the event will have effect only until August 1 next year and are expressly intended as a full-dress rehearsal for the great day when the 53-mile London—Birmingham motorway is thrown open in the autumn of next year. Road hauliers, the T. and G.W.U. permitting, will have the chance of decimating point-to-point times, although the overall saving must reflect the ratio which time on the motorway section of haul bears to throughout journey time. A disturbing thought is that enforcement of the statutory driving hours limitations will be more difficult in the case of journeys wholly or partially over a motorway. Vehicle manufacturers will be in a position to bring home vehicle design nearer to overseas specifications. In one respect alone has Mr. Watkinson disappointed, with an excessively timorous approach. He has banned vehicles carrying abnormal indivisible loads, save on a few experimental occasions. His caution is understandable; the motorway is nothing if not for a fast traffic load, with no stragglers. But three- or even two-lane carriageways 36 ft. and 24 ft. wide respectively should cope with the relatively rare abnormal load without bottling up. Once past this momentary hindrance fleeter vehicles will melt into the unencumbered distance like snow in summer. Therefore, these admittedly ponderous outfits should have their place on the motorway rather than on the quaint by-ways we call class A roads, where they have to cover three miles to the crow's two and hence bring mounting congestion in their train. The Order excluding certain categories of traffic from Preston by-pass was approved in the Commons this week; Mr. Watkinson said that "he intended to see the road was used by indivisible loads and then perhaps go for a week without them." He wanted to try as many permutations as he could.

Station Buildings in City Areas

IN this age of the multi-storey building, wide scope exists for the development of urban properties. Prominent amongst these are the sites occupied by railway stations which with the displacement of steam traction offer possibilities for vast superstructures. A striking example is Cannon Street in the City of London where maximum prospective development has been stopped by the refusal of the Court of Common Council to accept plans for a new station building to include a block of offices with shops and car parks. The reason given is that the proposed height would be excessive in relation to other high buildings and in view of proximity to St. Paul's Cathedral. Negotiations have been proceeding for about 18 months. Additional to a new station the design provided for 300,000 sq. ft. of floor space, with part of the building 220 ft. (or 20 storeys) above street level and a wing 164 ft. (14 storeys) in height. The Council's planning committee recommended as an alternative a station building with gross floor space, mainly for offices, not exceeding 105,000 sq. ft. and representing from 7 to 10 storeys. Another reason for rejection was that the extent of the proposed non-operational floor space would be contrary to the policy of restricting offices in central areas. In this connection Sir George Pepler, sometime technical adviser to the former Minister of Town and Country Planning, warned a conference in London last week that there was a danger of transport coming to a standstill if the number of office workers in the city increased; he and others urged employers to consider moving some of their offices outside the London area.

Unremunerative Bus Routes

ADDRESSING the annual meeting last week of the British Electric Traction Co., Limited, Mr. H. C. Drayton referred to the harm done to the industry by the provincial bus strike of a year ago. The Minister of Labour referred the dispute to the Industrial Disputes Tribunal, but the unions refused to co-operate and made only the briefest appearance at the hearing. Although the award was binding on both parties the unions had indicated they would not accept if they did not approve of it. In the event the 11s. increase was accepted. Less than nine months passed and a further demand was made and is now the subject of negotiations. The strike, which occurred at the height of the holiday season, meant cancellation of coach journeys and disruption of many people's annual holidays, while many regular travellers were persuaded to adopt other means of transport. The experience of last year, said the chairman, had sounded a serious warning to those engaged in the provincial bus industry (as indeed has the recent strike in the Metropolis). Traffic receipts had fallen despite higher fares introduced to meet increased wages. In the B.E.T. companies unremunerative route mileage now amounts to approximately 40 per cent, which can no longer be afforded because the loss on these routes is increasing while the surplus from the profitable routes is decreasing. Authoritative opinion is convinced that the situation can only be prevented from worsening by an alleviation in the tax on fuel oil.

Fire-Fighting Machines

RE-ENTRY of Leyland to the fire appliance market coincided with an opportunity for us to read *A History of the British Fire Service*, by G. V. Blackstone, C.B.E., chief officer of the Hertfordshire Fire Brigade (Routledge and Kegan Paul, 60s.); it contains, besides a vivid description of fire fighting from Roman times to the present day, some piquant accounts of the early days of the mechanisation of fire pumps and escapes. In 1902 the self-propelled steam fire engine arrived on the scene at Leyland; petrol so far had—in 1901—powered somewhat unsuccessful tenders at Eccles (on a 7-h.p. Bijou chassis) and at Liverpool, where a large Daimler had some stirring adventures. During 1903 Tottenham daringly built a fire station without stables or provision for horses; there were pumps on steam chassis and a Merryweather escape carrying a chemical "engine" or extinguisher to conflagrations at a smart 15 m.p.h. Next year a Merryweather motor pump at Finchley with a 250 gal. per min. output caused a sensation and really put the motorised appliance on the map. The Dennis motor pump appeared in 1908, Leyland began petrol-driven fire engine production in 1910 and gradually the horse-hauled steam pump, to which (before oil-firing came in) a coal cart had been an absurd corollary, went out of use, although one die-hard authority ordered one as late as 1923. The steam pump was kept at the ready by a gasjet; the coal fire, ready laid, was lit by a fusee dropped down the chimney as the crew assembled and was well going by the time the horses had been brought from the stables and put in the shafts. Once the petrol-engined vehicle had gained a modest reliability fire fighting was put on a much swifter basis. During the 1914-18 war several horse-drawn pumps had to be towed by motors because of the commandeering of horses by the Army, a dangerous practice which led to accidents as the machines designed for equine traction often disintegrated. Mr. Blackstone's book is a monumental history of 250,000 words and it is lavishly illustrated, many of the pictures being in colour. Among motor vehicle photographs may be mentioned a trailer-mounted motor-driven pump of 1895, the fascinating early vehicles referred to above, the first enclosed limousine pump, built by Dennis for Darlington in 1931, the wartime trailer pumps, and a Bedford mounted unit in colour. It is an entrancing story from which the theme of mechanisation going hand-in-hand with the need, both in peace and war, for organisation over wider areas emerges strongly.

A New Shape in London

LAST week saw the introduction into trial service with one of London's largest taxicab operators, York Way Motors, Limited, of the prototype of a new taxicab. The vehicle, which has been approved by the Commissioner of Police for operation in the Metropolis and was supplied through Mann and Overton, Limited, is the Type FX4, manufactured by the Austin Motor Co., Limited, with coachwork by Carbodies, Limited. The Austin FX4 represents the biggest departure yet from the traditional box-on-wheels appearance of the London taxicab, yet it retains those features of compact dimensions and manoeuvrability (25-ft. turning circle) so essential to rapid negotiation of London streets and traffic. With a good-looking enveloping pressed-steel body in the modern idiom, interior width is improved due to the elimination of running boards and a larger area is available for luggage alongside the driver; this space is enclosed by a fourth door. Overall width, wheelbase and track and the turning circle are the same as for the present Austin FX3 and, despite an appearance of much greater length, overall length is only 4 in. greater, an increase accounted for by bumpers and overriders. Greater comfort for the four passengers, particularly for those facing the rear is provided by more-generously dimensioned and upholstered seats.

Technical Advances

TECHNICALLY, the FX4 retains the excellent B.M.C. 2.2-litre diesel engine, but breaks new ground for Austin cabs by introducing independent front suspension, hydraulically-operated brakes and the Borg-Warner automatic transmission, giving two-pedal control. The Borg-Warner transmission has already been well tested in London taxicab service in a number of diesel-engined FX3 vehicles and although fuel consumption is about 5 or 6 per cent higher than with comparable vehicles with mechanical gearboxes, the elimination of work with clutch and gears by the driver, resulting in a reduction of fatigue and closer concentration on traffic, is generally considered well worth while. In fact, a great deal of attention has been paid to driver wellbeing and safety aspects. The fully enclosed cab is obviously a great improvement and the elimination of the glass partition on the driver's left gives more elbow room and removes a source of occasional dangerous glare of reflected light in night driving. Viewed from the sidelines, so to speak, of the taxicab operating industry, the new vehicle appears to be a natural step in the logical evolution of the London taxicab offering a number of advantages. Its much greater appeal to hire-car operators is certain. First production vehicles will be exhibited at the Commercial Motor Show, when a detailed description will be given in our columns, and the Austin Company plans to start deliveries next January. A picture of the prototype now in service with York Way Motors appears on page 13 of this issue.

Rubberised Roads

GOOD progress with rubberised roads using rubber powder and latex in surfacing materials is recorded in the Natural Rubber Development Board's annual report, just published. The subject is given special attention, reflecting its big potential as a major outlet for rubber. The report says that during the year many road authorities chose to use rubber in their construction and repair programmes "as a direct result of the success of earlier experiments." The tendency to use rubber in conditions which were particularly severe and where traditional materials proved inadequate is commented upon. Among examples of difficult surfaces so treated was Spencer Street Bridge, Melbourne, a junction carrying heavy traffic, where several attempts to seal the surface had previously failed and where a rubberised surfacing material was now giving satisfactory service. Other examples illustrated include a cobbled hill with a 1 in 5 gradient in Pennsylvania, a series of dirt roads in New Jersey and a number of country roads in other parts of the world including some laid over peat foundations, all of which were successfully resurfaced using rubber. In Australia, rubberised bitumen had a thorough testing as a surface material for airport runways with such good results that more airports were scheduled for the same treatment during 1958. Sufficient time has not elapsed for the main results of the full-scale tests by the Road Research Laboratory to become available, but an interim report stated that on five different test strips a normal cut-back bitumen fatted (a condition where bitumen rises to the road surface making it slippery) seriously during the summer when comparable sections of rubberised bitumen remained in good condition. Work by the Road Research Laboratory on developing rubberised tar reached the test stage, while a method of using latex as an alternative to rubber powder as an additive to road materials was successfully tested at the Natural Rubber Development Board's U.S.A. laboratories.

LEADING FEATURES IN THIS ISSUE

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IN SWITZERLAND

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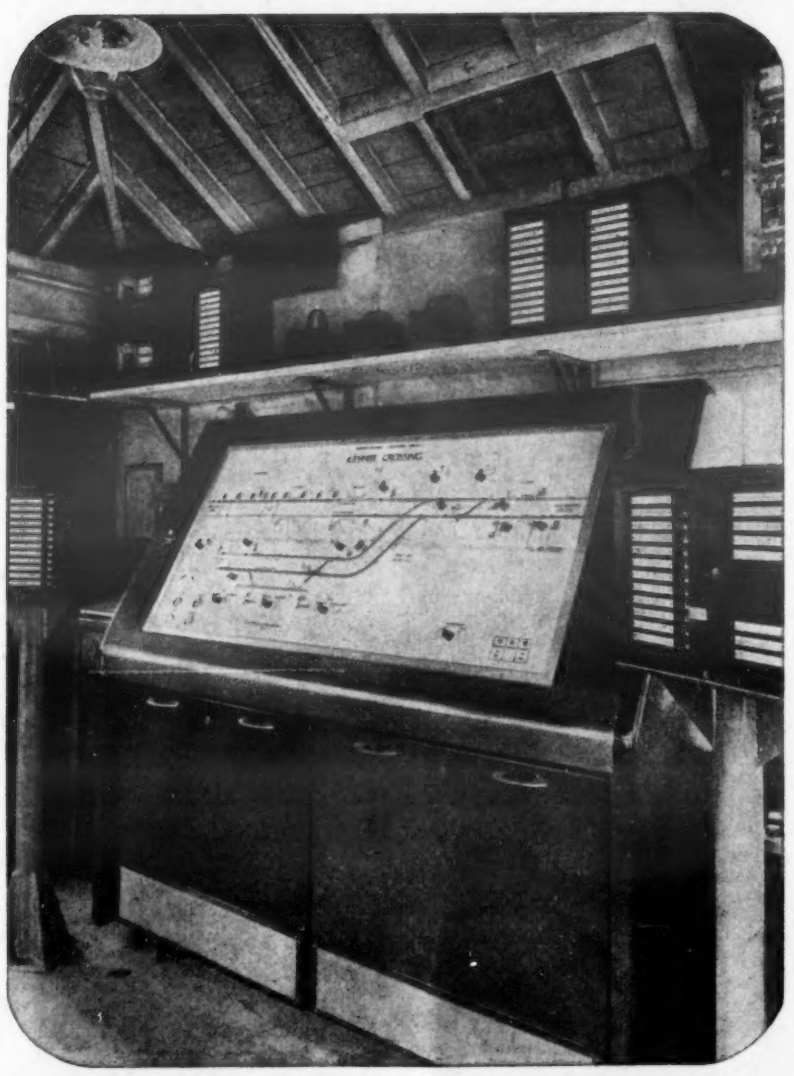

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The Editor is prepared to consider contributions offered for publication in MODERN TRANSPORT, but intending contributors should first study the length and style of articles appearing in the paper and satisfy themselves that the topic with which they propose to deal is relevant to editorial requirements. In controversial subjects relating to all aspects of transport and traffic this newspaper offers a platform for independent comment and debate, its object being to encourage the provision of all forms of transport in the best interests of the community.

Good Money After Bad

THIS week the report of the Committee of Inquiry into Inland Waterways, appointed by the Minister of Transport in February, 1956, and over which Mr. Leslie Bowes, managing director of the Pacific Steam Navigation Company, was appointed chairman, has been presented to Parliament. The committee, it may be recalled, comprised seven members beside the chairman: Messrs. John Corbett, partner in Messrs. Peat, Marwick, Mitchell and Company; G. C. Godber, clerk of the Shropshire County Council; H. E. Hopthrow, C.B.E., assistant secretary, Imperial Chemical Industries, Limited; W. A. Muddell, J.P., chairman of the Land Drainage Committee of the River Boards Association; Francis Ritchie, a member of the National Parks Commission; Michael Rowe, C.B.E., Q.C., and John Wilson, C.B.E., J.P., general manager and secretary of the Clyde Navigation Trust. Its secretary was Mr. G. G. D. Hill, an assistant secretary of the Ministry of Transport and Civil Aviation. It was charged with an investigation of all aspects of the inland waterway system, nationalised or otherwise, from the viewpoint not only of transport, but of water supply, land drainage, and recreation. The committee has obviously spent a great deal of time and trouble on its investigation both at home and abroad, in which connection the services of this newspaper in producing data are acknowledged. Some useful comparisons are made between conditions here and elsewhere in Europe. In Western Germany only 680 miles out of 3,200 are restricted to vessels of less than 400 tons, France has 700 miles of waterway open to 600-ton or larger craft; in Belgium 530 miles are available to 600-ton units and 190 miles can take 2,000-ton Rhine barges. A 650-ton vessel has 1,200 miles of the Netherlands network open to it. The 3,200-mile German network has 215 locks, or one to every 15 miles. In Britain there are 1,540 locks on 1,886 miles of navigable nationalised waterway or 1¼ miles per lock. Many of these waterways are incapable of accepting other than narrow boats of 7 ft. beam and 70 ft. length, which usually move in pairs with a 25-ton motor unit and a 30-ton load in the butty. Furthermore, at some 500 locks only one unit at a time can be handled, at least doubling the time of passage of a pair. It is obvious, therefore, that in the broken terrain of this small island the canal must be treated on a basis entirely different from that reasonable in Europe, where nevertheless heavy subsidies are paid by the State to foster inland waterway facilities.

Cheaper by Road?

IT fell to Mr. William Fraser, formerly secretary and traffic manager of the Trent Navigation Company, to point out in the early postwar period that under present circumstances the cost of labour on a narrow boat canal is disproportionately high and that the men could be more remuneratively employed on a lorry generating a higher ton-mileage for each day's work. The report reinforces this view by quoting authoritative opinion that a hypothetical 50 per cent increase in the ton-mileage performance of the waterways could be handled by 300 5-ton lorries, which is a mere fraction of one year's natural increase in road haulage. The range of traffics that can endure slow transits is a limited one. The Board of Survey appointed by the British Transport Commission in 1954 recommended 336 miles of waterway in Group I for improvement; 994 miles in Group II for retention for transport purposes under "existing conditions"; and 771 disused or almost trafficless miles for consideration for transfer to other authorities. The Caledonian and Crinan Canals in Scotland were recommended to be transferred to the Secretary of State for Scotland. The Bowes Committee proposes for retention 1,315 miles of waterway, grouped as Class A (380 miles) and Class B (935 miles, mainly of narrow boat dimensions) and listed under those headings in an article on page 3. Class A waterways can together produce a working surplus while Class B suffer an operating loss (with no contribution to interest on capital or B.T.C. central charges). Although it recognises the futility of ignoring the limitations of Class B waterways the committee optimistically considers that a revival of traffic will follow removal of deterrents to enterprise and ingenuity, allied to security of tenure for a quarter-century ahead, with reinstatement and maintenance in full working order. As further encouragement to traffic revival it suggests that tolls be abolished, because they may amount to 20 per cent of the total freight charged, and a capacity-levy (say £1 per ton up to 60-ton vessels) substituted. This would cause a further loss of revenue initially of £164,000.

Yet More Waterways?

SIMULTANEOUSLY, investigation of major improvements is urged. The completion of the erstwhile Grand Union project for 14 ft. beam passage throughout from London to Birmingham (discontinued over 25 years ago at Berkhamsted) would, it is stated, enable 90-ton craft to load or unload alongside ships in the Ports of London and proceed without transhipment to the heart of the Midlands. The cost of works, without acquisition of land, is estimated at £4.2 million. Another grandiose project, for which no estimate is given, would extend the Weaver Navigation inland by a new route so as to link Wolverhampton with the Mersey. Bearing in mind the existence of a more than adequate railway system, fast being modernised at enormous cost, and a road system now being improved out of all knowledge by a high-speed motorway which will eventually link the Thames with the Black Country and the Mersey, any such proposals must look very much like throwing good money after bad. The cost of reinstating the Class B group to their original condition is expected to be £3½ million and the working deficit would by the Committee's proposals be increased to some £500,000 a year. Nevertheless it is speciously contended that the deficit is being borne by the community now and that the gradual decline of navigation will not reduce the burden. Controversial measures are proposed for future administration. The chairman, with Messrs. Corbett, Muddell and Wilson, proposes leaving the waterways with the British Transport Commission, whose enlightened policy is acknowledged. But the existing sub-Commission and management would be aggrandised into a statutory body analagous, it is claimed, to "the area authorities for the railways." These in fact are area boards capable of dealing with all forms of transport, and the proposal would be tantamount to the setting up under the Commission of an executive of the kind which has already been tried and found wanting. It is indeed just where we came in, or rather where they went out in 1953. The suggestion seems superfluous in view of the straightforward character and unquestioned energy and ability of the existing management, to which the report pays tribute. More practicable — and welcome — is the proposed setting-up of a Waterways Redevelopment Board to deal with waterway aspects extraneous to transport and of the type from which the B.T.C. would no doubt like to be relieved.

Dissenting Report Surprising

WHILST the committee enjoys unanimity of opinion on most of its recommendations, there is a cleavage on the score of administration and management. Four of its members, Messrs. Godber, Hopthrow, Ritchie and Rowe, go so far as to recommend formation of an Inland Waterways Corporation which would not only be severed from the B.T.C. but be in active competition with it. This step is recommended on the obviously false assumption that "the basic requirements for the administration of waterways differ from those for the administration of a nationalised carrying business." It also rests upon the argument that the controlling body must be able to concentrate upon its exacting tasks, free from preoccupation with the many problems facing the B.T.C. on rail and road services, as if the existing management is not sufficiently divorced in this respect. The corporation would take over the Class A waterways as a commercial proposition and the Class B as a group to be subsidised heavily by the Exchequer, with as a side line the promotion or elimination of nationalised waterways outside the prescribed navigable system, with some duties towards independent waterways. The Re-development Board proposed by their colleagues would not be created; instead there would be cumbrous machinery for the appointment of Re-development Consultative Committees in respect of each waterway for which the Minister of Housing and Local Government could be persuaded to make a re-development order. And this gratuitous enhancement of bureaucracy would be on the understanding that no capital debt or accrued deficit should be transferred from the Commission to the Corporation, which would "be run as a public service, substantially at the public expense, and have no capital structure." In other words, the Commission would be deprived of reimbursement for past debts and the public would have to bear future losses. The report, a useful epitome of past inquiries into the worth of canal transport, is of value in bringing up-to-date and pin-pointing its perennial problems, of which those in the industry are already painfully aware, and the committee has performed a service in proposing methods of dealing with non-transport or "alien" aspects of waterways regarding which existing statutes, public and private, are "both archaic and chaotic." As regards navigable waterways its proposals deserve careful study, always with the proviso that it may after all be better to leave well alone.

[Forthcoming Events appear on Page 9]

FUTURE OF CANALS

Report of Bowes Committee of Inquiry

DIFFERENCES ON PROCEDURE AND MANAGEMENT

THE report of the Committee of Inquiry into Inland Waterways was published on July 28 (H.M. Stationery Office, price 6s. 6d. net). The Committee was appointed by the Minister of Transport in February, 1956, under the chairmanship of Mr. H. Leslie Bowes, C.B.E., to consider and make recommendations covering the maximum use of the country's system of inland waterways; how waterways which cannot economically be maintained for transport, but which are useful for other purposes, should be administered and financed; conversion of canal sites to other purposes where desirable and practicable; and the law relating to the closing of waterways to navigation.

The Navigable System

The Committee recommends that about 1,300 miles of inland waterways in England, now vested in the British Transport Commission, should be made an integrated and efficient system of inland navigation. It divides the system into 380 miles of class A waterways and 930 miles of class B waterways. Class A includes the Aire and Calder, Fossdyke, Gloucester and Sharpness and River Severn, Grand Union (Regents Canal Dock and Brentford to Berkhamsted), Kennet and Avon (Avon Section), River Lee (Thames to Enfield Lock), Sheffield and South Yorkshire, River Trent, River Weaver and Weston Point Dock and River Witham. In Class B are the used portion of the Ashby, Birmingham, Calder and Hebble, Coventry, Grand Union north of Berkhamsted, Kensington, Lee (above Enfield) and Stort, Leeds and Liverpool, Oxford, St. Helens, Shropshire Union main line, Stourbridge and Stourbridge Extension, Stratford on Avon, Trent and Mersey, and Worcester and Birmingham canals.

Class A waterways, taken together, currently earn a surplus over working expenses. Most of them are being improved under the Commission's £5½ million programme for the waterways, and these improvements should go forward. The Committee believes that class A will pay their way, but any surplus must be devoted to maintaining them to a high standard and continuing to improve them as necessary, and not diverted to the support of other waterways. Class B waterways, mainly narrow canals, should be restored over five years to the widths and depths which will enable the largest craft built for use upon them to navigate safely with full payloads. The revenues from all sources, including navigation, fall short of working expenses by about £300,000 yearly.

Main Handicap on Class B

The Committee considers that the main handicap to use of these waterways for commercial carriage is low utilisation factor of small craft operating on narrow canals, with many locks and often circuitous routes. It recommends that deterrents to enterprise in the carrying industry should be removed and encouragement given by re-instatement; removing existing doubt and insecurity by a commitment to maintain the navigable system to prescribed standards for 25 years; and abolishing the existing system of tolls (at present levied per ton of goods carried, varying from one kind of goods to another, and from waterway to waterway) and substituting on class B waterways an annual licence fee per vessel, of up to 60 tons, £1 per ton of capacity or about £25 per year for a narrow boat being suggested.

Non-Transport Uses

Of non-transport uses of canals, water abstraction is extremely important. The Commission's waterways (including those in Scotland) supply 205,000 million gallons yearly, besides unrecorded abstractions which cannot be estimated. This use is increasing with industry's growing demand for water. But the powers to obtain and to supply water are derived from old canal Acts and often do not enable this function to be developed, or economic charges to be made for supplies.

The Committee recommends that the development of non-potable supplies from canals should be undertaken in the interests of the waterways and because of their valuable contribution to national water resources; also that the responsible Ministers and the canal owners should jointly survey these water resources and prepare a scheme for their greater utilisation. Reception of effluents and surface water is also an important use of the waterways. Little revenue is earned from it, but the Committee recommends that it should be put on a contractual basis.

Recreation

Of the recreational uses, angling and pleasure boating are particularly important numerically. Revenue from them, though likely to increase, is not great—about £7,800 yearly from angling and £20,000 yearly from pleasure boating. So even a substantial increase would produce no great improvement in waterway finances. However, fishing rights on nationalised waterways do not always vest in the B.T.C.

The Committee recommends that the right to authorise fishing in any nationalised canals should rest with the body which maintains and administers them (without, however, disturbing the rights of adjoining landowners themselves to fish from their own land). A system of registration and licensing of pleasure craft should be introduced, chiefly to enforce reasonable standards of fitness and maintenance, but also for revenue.

Towing paths (where not already public rights of way) should be open to the public as footways, free of charge, so far as consistent with the needs of navigation and subject to supervision in the interests of other uses of the waterway.

Finance

The Committee thinks that class B waterways will continue to incur deficits of the order of £300,000 yearly, and the proposed substitution of licence fees for tolls would result in a further loss of revenue. If the proposals were accepted, it estimates a deficit of about £500,000 annually, and the measures to reinstate these waterways, recommended by the Committee, have been conservatively estimated to cost £3½ million. It considers that funds will have to be found to meet these expenses, either by direct payments from the Exchequer or by some other means. The deficits which these waterways incur, it is said, is a burden which is being borne by the community now, although it is not generally realised; a further decline in use for navigation will not lessen the burden. The carrying fleet operated by British Waterways should, in the Committee's view, continue its activities on the same terms as the Commission's other carrying operations, i.e. without special financial support.

Administration

The Committee is unanimous in its recommendations as to practical measures to be taken. The body to which the administration of nationalised waterways and the carrying out of the recommended measures should be entrusted, is the subject of difference. The chairman and three other members (Messrs John Corbett, W. A. Muddell, and J. Wilson) recommend that the nationalised waterways should continue to be vested in and administered by the British Transport Commission, but that the Commission should delegate substantial powers to a statutorily constituted body, to consist of three members of the Commission and four other members, drawn from general industry, to be nominated by the Minister. This body should manage the nationalised waterways within the framework of general policy laid down by the Commission.

Four other members of the Committee, Messrs. G. C. Godber, H. E. Hopthrow, Francis Ritchie and Michael E. Rowe, recommend instead that the nationalised inland waterways should be transferred from the British Transport Commission to a new, independent Inland Waterways Corporation, to be set up by statute and to consist of nine Government-appointed directors, including three part-time ones chosen for their knowledge and experience of local government, water supply, land drainage and other non-transport uses of the waterways, and one part-time member to represent Scottish interests. The other five directors would be full-time. The Corporation should take over British Waterways' existing undertakings, organisation and staff. The class A waterways should be self-supporting and the carrying services should also be run on a self-financing commercial basis. The Corporation should be responsible to the Minister of Transport through whom its annual estimates should be submitted. Its deficits should be met from the Exchequer.

Re-Development and Elimination

The Committee makes no specific proposals for dealing with particular waterways which it has not recommended for inclusion in the navigable system. It points out that some hundreds of miles will need to be reviewed case by case, and a fresh assessment made of their value to the community. It proposes a new machinery for reviewing these "problem" waterways individually and preparing schemes for their future use, and it suggests principles by which this review should be guided.

In this matter, again, the Committee is at one about the needs and objectives, but it is split on procedure. The members who favour retention of nationalised waterways by the British Transport Commission recommend that the Minister should appoint an independent Waterways Redevelopment Board, including members with experience of commerce, finance, agriculture, land drainage, local government, water supply and the amenity and recreational aspects of waterways, to review the nationalised waterways not included in the navigable system.

Schemes

The British Transport Commission should apply to the Board to prepare a scheme for the redevelopment or elimination of any nationalised waterway not included in the navigable system. The Board should have discretion to prepare a scheme itself, or to require the Commission to prepare one and submit it to the Board. Other interests could apply through the Minister of Transport for an order referring a waterway to the Re-development Board for review.

Schemes could provide for keeping a waterway, or part of it, in being as a water-channel, for purposes other than navigation; for transferring it to any person or body who could make use of it; for restoring it for navigation; for de-watering it and filling it in; for disposing of the site and buildings; and for modifying or abolishing any special obligations standing in the way of the most useful and practicable treatment of the waterway. There should be publication of schemes and provision for the consideration of objections. Compensation should be payable for interference with valuable private rights, actively and lawfully enjoyed, which are affected by a scheme. The amount of compensation should be determined, in case of dispute, by the Lands Tribunal.

Those members of the Committee who recommend that the nationalised waterways should be transferred to an independent Inland Waterways Corporation see no need for a separate Waterways Re-development Board, but consider that the Corporation itself should prepare and negotiate schemes instead. They propose the constitution of a Re-development Consultative Committee, at local level, for each scheme.

Scotland

The Caledonian and Crinan canals should be kept in being as navigations. Neither is expected to become a viable, commercial undertaking, but they play an important part in the social and economic life of western and north-western Scotland, and may in time become more important for transport. The Crinan Canal should be improved. The Monkland Canal has been legally abandoned for some years and the Edinburgh and Glasgow Union Canal carries no commercial traffic, but both are suppliers of water.

The Forth and Clyde Canal is used by fishing vessels moving from coast to coast, and also by yachts. Transport of merchandise on the canal, however, is very small and confined to short movements at either end. The Committee sees no prospects of a revival of goods transport. On balance, it would be best to close the canal to navigation, but keep it in being as a water channel. The working deficits of the two Highland canals and the cost of improving the Crinan Canal should be borne by the State, as before they were vested in the British Transport Commission. The other three canals should be reviewed through the re-development procedure.

(*Continued on page* 10)

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LORRY—BUS—COACH

Carriers v. Retailers at Smithfield

GIVING evidence before the Smithfield market inquiry on Friday last week, Mr. H. F. Minter, chairman of the Wholesale Meat and Provisions Transport Association, said that any appreciable increase in the number of retailers' vehicles at present entering the market would cause such traffic congestion as to make the work there almost impossible. Similarly, any substantial increase in the number of porters or others applying for goods purchased would completely upset normal operations inside the market. The Association's conclusions were:

No changes regarding porters were necessary as present arrangements were satisfactory;

A certain number of pullers-back (who remove meat from inside the vans to the tailboards) was necessary. The refusal of drivers to pull back or assist in pulling back loads when this was practicable was unreasonable and added unnecessarily to costs;

There was a case for licensing pitchers.

On the retailers' claim to carry out their meat, Mr. Minter said if those rights could be exercised without prejudice to the satisfactory operation of the market it would be difficult to object to them. But this did not seem to be the case.

Continuing his evidence on Monday, Mr. Minter suggested that if all the operations of the market were suitably co-ordinated an earlier start of working might be of advantage. Mr. Spencer Tribe, a T. and G.W.U. market organiser, commented that the union was not responsible for bummarees being in the market (their practices were earlier criticised). "If we had our way, it would have been all carriers, in the interests of the public, but everybody has said up to now how essential the bummaree is to their services," he added.

Mr. H. A. West, on behalf of the Multiple Retail Meat Traders, said that members who had employed firms of meat carriers to transport their purchases had experienced delay. This was due to the later starting of work than in prewar years; carriers taking too long to make journeys; insufficient control by meat carriers of their staff; and the slow working of shopmen.

For its part, the union had insisted that meat arriving at depots near Smithfield, in vehicles other than the members' own, should be unloaded by pullers back and pitchers, brought specially from the market, although members' staff had been available, and the meat had not come from Smithfield. A further attempt to extend restrictive practices had been the refusal to allow non-union drivers employed by members of the association to pick up meat from members' own depots, outside Smithfield. Much of the inefficiency and its consequences could be overcome by the flexibility of the labour available. After further evidence from the union the inquiry was concluded on Tuesday this week. The committee will make its report to the Minister of Labour.

Edinburgh May Borrow for New Buses

AT the end of its first year of all-bus operation Edinburgh Transport Department shows a surplus of £47,050. This must be contrasted with the deficit of £91,545 carried forward in the previous year. There is also the factor that authority was provided in the estimates for a revenue contribution of £130,000 for bus replacement. This year, no contribution is possible, and there is no early prospect of an allocation: borrowing may be necessary to finance essential replacements. The number of passengers declined by 13 million to 246 million. Reduction of services at off-peak periods appears the most effective method of meeting the situation, apart from fare increases, says the annual report.

South African Road-Rail Issue

PROPOSALS for the establishment of a South African Ministry of Road Transport divorced from responsibility for railways, harbours and airways were made by Mr. Brian Kelly in his presidential address to the 26th annual meeting of the Automobile Association of South Africa in Johannesburg. Mr. Kelly said he was aware of the theory that unified control of all services ensured better co-ordination, but this could not be achieved so long as the department was dominated by a policy aimed at protecting state revenue-producing undertakings. He did not mean to imply that the railways would not for many years play an important part in the transport needs of the country. The Union total expenditure on roads and streets was a fraction of the expenditure planned for the railways—the railway five-year plan of 1956 involved about £200 million compared with the annual expenditure of the National Road Fund pegged at £5,800,000, of which only £4 million was actually used for road construction and maintenance. The total investment in roads and motor vehicles, excluding garages, service stations and assembly plants, was more than £800 million compared with the railways' total investment of £486 million, it was claimed.

Negligible Return from Cheap Fares

EXPERIMENTAL cheap fares had brought neither the increased traffic nor the revenue expected, declared Mr. P. W. Dodge, traffic manager of the East Kent Road Car Co., Limited, when he informed the South Eastern area Traffic Commissioners at Canterbury that the company did not wish to renew the three-month trial period of half-day cheap return tickets on Wednesday, Thursday and Sunday afternoons, which they had inaugurated throughout the area with the view to fighting decreasing passenger traffic. About 145,000 cheap tickets had been issued, which was unimportant compared with the 846,739 passenger loss. The company estimated that only 38,216 extra tickets were sold because of cheaper fares. Cheap ticket revenue was £12,911, but the increased total revenue in the first three months of 1958 (£387,059) over the same period in 1957 (£385,448) was only 0.41 per cent up instead of the expected 7.8 per cent.

Special A-Licence Holders Increased

ENFORCEMENT work amounted to only half that undertaken in the previous year, due to the Suez episode and fuel rationing between December, 1956, and May, 1957. This is the anticipated report of the goods vehicle licensing authorities for the year ended September 30, 1957, summarised by the Ministry of Transport and issued by the Stationery Office this week, price 3s.

A distinguished E.R.F. 4,000-gal. tanker which doubtless works transport wonders for its Burton-on-Trent owner—like all Ind Coope and Allsopp heavy vehicles, it runs on Pirelli tyres; right, the Karrier Bantam makes a popular mobile shop, in this case a cornchandler's

When fuel rationing ended time was still required to resume investigations and to prepare cases. In some cases magistrates, impressed with the facts in serious instances, imposed higher penalties but this is still not the general experience.

The total number of vehicles authorised under ordinary A-licences at December 31, 1957 (actually outside the year under review), rose from 65,758 to 68,273, mainly, it appears, because of applications involving deletion of vehicles from special A-licences. The total vehicles under the latter heading (including B.T.C. vehicles) declined from 25,276 to 23,746, but the number of independent holders actually rose from 5,012 to 5,091, the average vehicle per licence being 3.2 (this does not take into account operators holding licences in two or more traffic areas). C-licences topped the one million mark for the first time and represent 85.1 per cent of the total of all licensed vehicles, but the 72,000 over the year was undoubtedly influenced by the large increase in applications for utility-type vehicles during fuel rationing.

Haulage Across Netherlands Frontiers

ACCORDING to data furnished by the Netherlands Central Bureau of Statistics, road-haulage traffic on both Netherlands and foreign vehicles crossing the Netherlands frontiers in 1957 amounted to 6,497,000 tons, compared to 5,644,000 tons in 1956, an increase of 15 per cent. Since 1953 there has been a steady increase as shown by these figures: 1953, 2,962,000 tons; 1954, 3,835,000 tons; 1955, 4,358,000 tons. (The figure for 1938 was 900,000 tons.)

London Sub-standard Fares Raised

ROAD fares do not figure prominently in the announcement by London Transport that it is to increase on August 10 a limited number of substandard fares to bring them into line with the standard charges. Nearly all the fares affected are of 10d. and over, the majority being on the Underground. Season ticket rates will also be raised where appropriate. The extra revenue will be £300,000 per annum.

Six-Wheeled Bus Preserved

ONE of a batch of nine A.E.C. Renown six-wheeled 64-seat double-deck buses of 1938-39 vintage has been sold by Leicester City Transport to the Vintage Passenger Vehicle Society as a museum exhibit. These were rather handsome vehicles with Northern Counties all-metal body-work. They were introduced by Mr. Ben England, then general manager, for tramway replacement; one was illustrated in our February 18, 1939, issue.

Commonsense Prevails at Brighton

AFTER hearing Alderman A. V. Nicholls, chairman of the Transport Committee describe it as an "idiotic" proposal, Brighton Town Council, by 37 votes to 26, decided against an experimental reduction in bus fares during off-peak hours. The transport committee felt very strongly that reduced fares at these times were not the answer to the decreasing passenger traffic, but this was not the view of a strong minority in the council.

Municipal Results

Oldham.—A net deficit of £22,006 has to be carried forward. Mileage was down 130,000 to 6,052,000, revenue fell £30,000 to £861,000.

West Bridgford.—Passengers fell by 163,000 to 8,453,000 and there was a deficit of £3,050 (£3,551). Costs were up by £4,060 mainly due to higher wages and the commencement of superannuation.

Bradford.—Sustained a net deficit of £29,109 (surplus £188). Trolleybuses showed a surplus of £4,786, buses a loss of £33,895.

Warrington.—Nearly 3 million fewer passengers were carried, the biggest drop in traffic in any year since 1950.

Bus and Coach Developments

Western National Omnibus Co., Limited, has surrendered its licence for a Taunton—Crewkerne service now operated solely by the Southern National company.

From July 23 London Transport Central bus route 90B has been extended daily at Yeading from Kingshill Avenue to the White Hart.

Return tickets between Hastings and Kings Head, Ore, are, it is proposed, to be made interavailable between East Kent Road Car Co., Limited, and Maidstone and District Motor Services, Limited.

Details of London Transport Country area bus route withdrawals have been announced as part of the current economy measures. The sections or entire routes withdrawn daily or on weekdays are: 424, Smallfield—Horne and Outwood Common; 442, Windsor—Farnham Royal (entire route); 449, Chartdowns Estate—Ewhurst; 479, Dartford—Swanley; 492, Gravesend—Kingsdown. Withdrawn on Sunday are: 308/A, Hertford—Cuffley or Little Berkhampstead; 317, Two Waters—Berkhamsted; 329, Hertford—Knebworth; 352, Dunstable—Dagnall; 386, Bishops Stortford—Hitchin; 386A, Hertford—Standon; 387, Tring—Aldbury; 392, Stevenage—Monks Wood; 422, Leatherhead—Box Hill (route 416 will be diverted to Box Hill); 433, Ranmore—Coldharbour (winter Sundays only); 445, Windsor—Datchet; 466, Staines—Knowle Hill; 467A, Dartford—Bow Arrow Lane; and 804, Hemel Hempstead—Harefield (hospital service).

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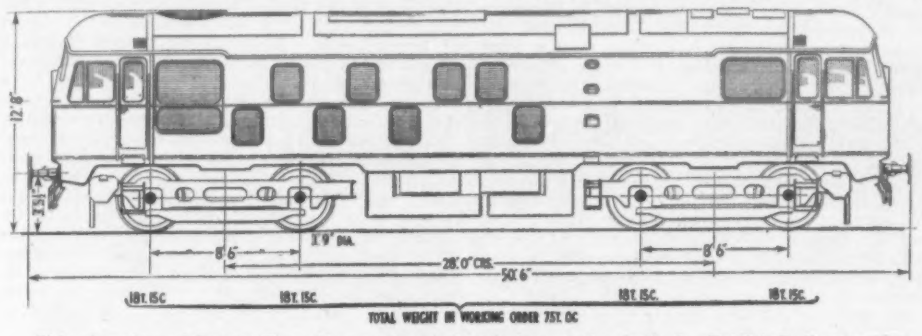
DERBY-BUILT DIESEL POWER

Sulzer Engines and B.T.H. Electric Transmission

B.R. TYPE 2 1,160-H.P. UNITS

SHOWN in public at Marylebone Station, London, for the first time on July 24 was the first of a series of 1,160-h.p. diesel-electric locomotives of British Railways Type 2; they are fitted with Sulzer engines and British Thomson-Houston electrical equipment. The present Derby-built batch comprises Nos. D5000—D5029, designed and constructed to the requirements of the British Transport Commission under the general direction of Messrs. R. C. Bond and S. B. Warder (chief mechanical engineer and chief electrical engineer respectively, of the British Railways Central Staff), the detailed design and supervision of construction being the responsibility of Mr. J. F. Harrison (chief mechanical and electrical engineer, London Midland Region). The whole design has been co-ordinated with the British Thomson-Houston Company, which is the main contractor for the power equipment, and with Sulzer Brothers, Limited, the diesel engine manufacturer.

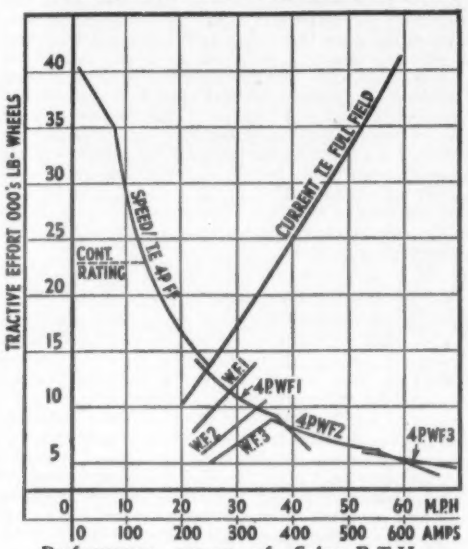


Side elevation of D5000 Class Type 2 diesel-electric locomotive built for British Railways at Derby works

LEADING PARTICULARS

Wheel arrangement	BB	Minimum curve	4½ chains without gauge widening
Maximum weight in working order	75 tons	Wheel diameter	3 ft. 9 in.
Maximum axle load in working order	18½ tons	Length over buffers	50 ft. 6 in.
Diesel engine h.p. at continuous rating	1,160 at 750 r.p.m	Distance between bogie centres	28 ft.
Maximum tractive effort	40,000 lb.	Bogie wheelbase	8 ft. 6 in.
Continuous tractive effort	21,300 lb at 15 m.p.h.	Fuel capacity (engine and boiler)	630 gal.
Maximum speed permitted	75 m.p.h.	Water capacity, boiler feed tanks	600 gal.

The units now under construction at Derby comprise 15 which will go into service on the Southern Region, five on the London Midland Region, and 10 on the Eastern Region. They will be used to replace steam locomotives and for the interim period during electrification of certain main lines. The locomotives are built to a 12 ft. 8 in. high loading gauge for working over the London Transport Executive lines such as the Metropolitan Line Widened Lines between St. Pancras and Kings Cross and the Southern Region at Blackfriars. They are equipped to work in multiple with others of the same design and with all British Railways locomotives with B.T.H., Crompton Parkinson or English Electric electrical equipment.



Performance curves of Sulzer-B.T.H. 1,160-h.p. diesel-electric locomotive with 16 to 81 gear ratio and 45-in. wheels

Alloy and Glass Fibre

With a view to achieving a light construction, a number of details is fabricated in aluminium alloy. These comprise driving cabs, including floor and floor supports; roof hatches; radiator fan housing and radiator ducting; cab and gangway doors; air louvres in housing sides; main floor plates and various cover and filling in plates; control cubicle; and toolboxes. In addition the roof of each cab is moulded in glass fibre reinforced polyester resin.

The underframe consists of two longitudinals, each comprising two standard channel sections placed back to back, the intervening space being enclosed top and bottom to form air ducts for ventilation and traction motor cooling. The longitudinals form the foundation for the four-point mounting of the engine generator set, and are tied together by two main transomes carrying the bogie centre pivots and by other members all of double channel section. The side girder frames are welded to these transomes and are tied together at the top by the roof frames.

Automatic Coupler Provision

A cable duct with oiltight and watertight covers has been provided along one side of the main longitudinals and on the other side pipelines run underneath the floor. The locomotives are fitted with Oleo pneumatic buffers and centre draw hook, but provision has been made for the later addition of automatic central couplers. A silencer of large volume is fitted comprising separate expansion and resonator chambers which are well lagged to prevent heat radiation. A self-draining sealing plate is provided under the floor for the full length of the locomotive between cab bulkheads to prevent leakage oil and water getting on to the bogies and battery equipment. Clean fuel spillage is collected separately and ducted back to the main fuel tank.

The superstructure embraces a driving cab at each end, the power unit and controls compartment and the carriage warming boiler compartment with communicating doors between each. Side access covers and roof hatches are provided to facilitate installation and removal of major units, and also maintenance work. Air filters are fitted in the body side panels to ensure clean air in the engine generator compartment, and special care has been taken in sealing all possible sources of leakage of unfiltered air into the engine compartment. The complete locomotive is lined, including the cabs, with Fibreglass navy board, thicknesses varying from ⅛ in. to 2 in. thick on either side of the cab bulkheads.

Bogie Design

The bogies are of welded and riveted construction with box frames, and are of the spring bolster type. It is a good-looking design which rides well. Primary suspension consists of two sets of coil springs arranged on each equalising beam damped by hydraulic shock absorbers. The bolster rests on the spring plank through two nests of coil springs, the motion of which is also damped by shock absorbers. The spring plank is suspended by four swing links pin-jointed with hardened steel bushes at the top and knife-edged at the bottom connection to the spring plank. Bogies of the first 10 locomotives are to be fitted with Skefko axleboxes; those on the second series of 10 will have Isothermos axleboxes.

The brake equipment is of the Oerlikon type manufactured by Davies and Metcalfe, with Westinghouse brake cylinders. A straight air brake is provided for the locomotive, operated through the driver's straight air brake valve in the drivers' cabs. An automatic vacuum brake is provided for the operation of the brake on the train. This vacuum brake is controlled by a driver's vacuum

(*Continued on page 13*)

The handsome lines of D5000, first of a Derby-built batch of 1,160-h.p. locomotives with Sulzer engine and B.T.H. electric transmission

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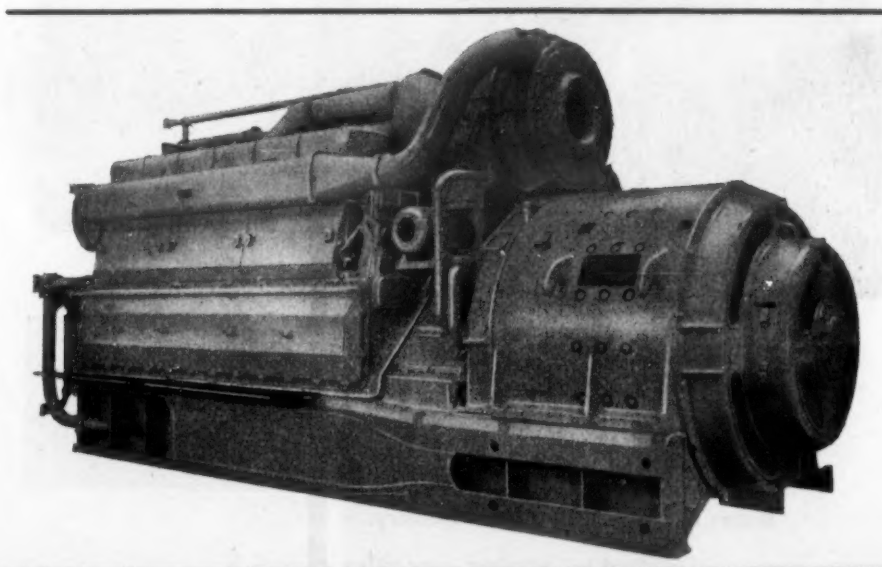

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COMPANY MEETING

FODENS LIMITED

THE 56th annual general meeting of Fodens, Limited, was held on July 30 at Elworth Works, Sandbach. Mr. James Wild, the Chairman, said in his report:

The profit after charging depreciation is £272,181 and after charging taxation the net profit is £146,117, which compares with £182,230 for the previous year.

We consider this year's profit figures to be satisfactory. Owing to the credit squeeze and general slackening-off of capital development, competition today is extremely keen. The Government's policy to reduce expenditure on the Services resulted in a reduction of orders received from the Admiralty. However, we view the future with confidence and recommend a dividend of 12½ per cent, as last year.

We have been able to maintain and even reduce our selling prices due to higher efficiency and economies in the factory. We are introducing several new models to our range of vehicles, which should have a world-wide appeal. These include a large dump truck with payload capacity of twenty-eight tons and a new Foden engine developing 150 b.h.p., which we believe to be the lightest and most compact unit available.

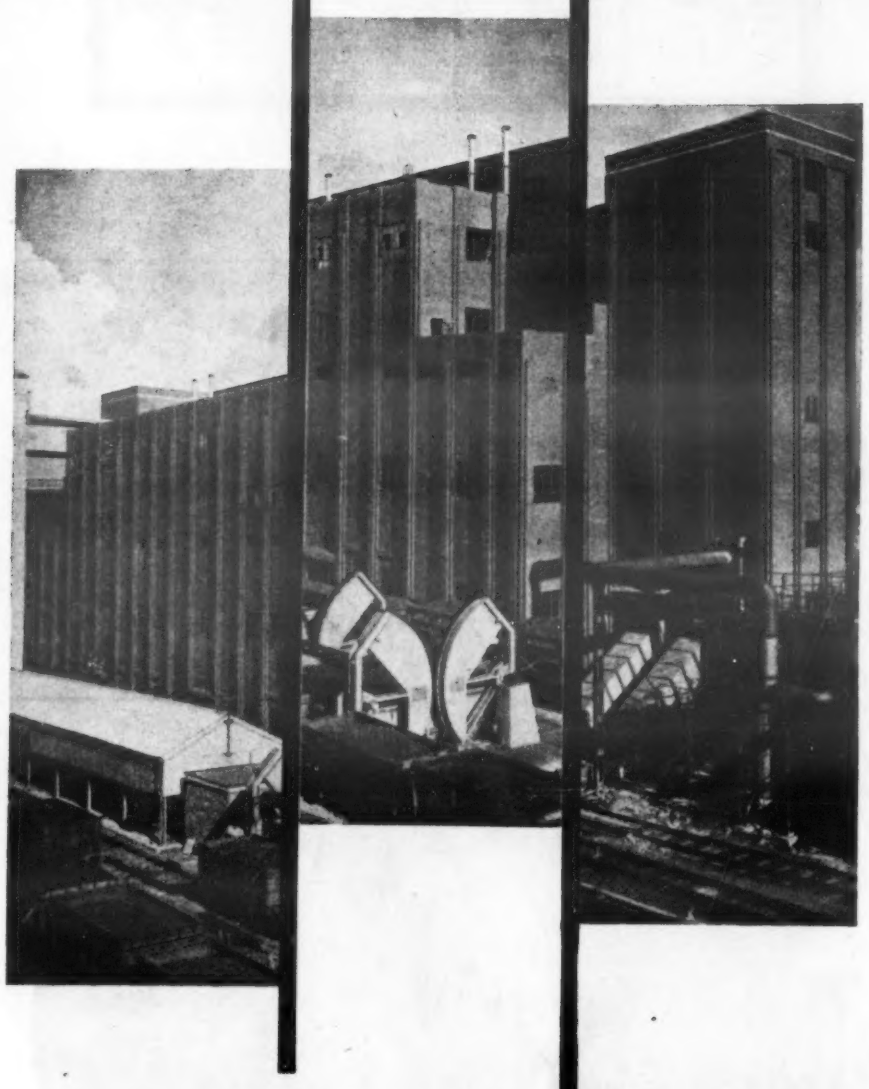
The threat to re-nationalize road transport has made some operators reluctant to order new vehicles and to expand their businesses. It is probable that keen competition for business will continue. Credit restrictions have also played their part in narrowing the potential avenues of business, but we are happy to note that some alleviation has taken place recently. It is unfortunate that the Chancellor of the Exchequer in his last budget could not see his way to abolishing Purchase Tax on commercial vehicles.

General world conditions at the present time are responsible for a note of caution in general trading conditions, but we view the future with reasoned optimism.

We have received the wholehearted co-operation of our employees during the year, and I thank them on your behalf.

The report was adopted.

SERVICE FOR A SERVICE



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Commercial Officer, North Eastern Region, Headquarters Offices, York (York 53022)
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Chief Commercial Manager, Southern Region, Waterloo Station, London SE1 (Waterloo 5151)
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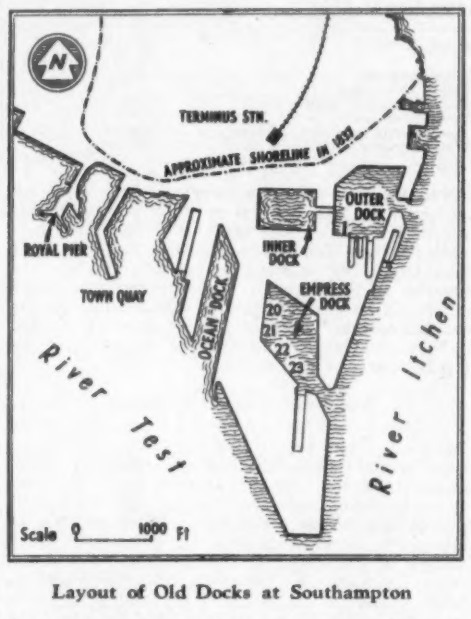
SHORT SEA ROUTE PORTS

7—*Southampton**

By HENRY REES, Ph.D., M.Sc.(Econ.)

SOUTHAMPTON differs from all the other cross-Channel ports in that its main business lies not with the short sea traffic but with the large ocean liners which link the United Kingdom with Canada, the United States, South America, South Africa and Australia and New Zealand. The largest docks and the longest berths naturally serve the distant passenger traffic; yet there remains a brisk trade in passengers and cargo to and from the Channel Islands and the Brittany coast. Indeed, nearly half the passengers using Southampton docks are travelling to or from these parts. How are we to explain the popularity of Southampton as a Channel port? Southampton successfully competes with Weymouth for the Channel Islands traffic. It is true that Southampton is 33 miles farther from Guernsey; on the other hand, it is more than that distance closer to London. Moreover, Southampton is a convenient Channel port for people of Wales and the West Country, and good trains link Swansea, Cardiff, Bristol and Plymouth with the night steamer for Havre, and so with Paris. It is not always realised that Southampton is almost precisely the same distance from London as is Dover. The sea crossing is longer, but it is often calmer than the pent-up waters of the Straits of Dover. Many travellers outside Wales and the west country therefore choose Southampton as their port for the Continent.

The story of Southampton reaches far back in history. The Romans used Clausentum (Bitterne), close by, as their port for Winchester, but Southampton is mentioned in Saxon times, as



Layout of Old Docks at Southampton

Homtun in a charter of 825 A.D. and as Hamtun under the year 837 in the Anglo-Saxon Chronicle. There is no need to stress the unique natural advantages of the port: its deep and sheltered approaches; its peculiar tides, which combine an exceptionally small range with four hours of slack water at high tide; its easy land communications with London, by way of the valleys of the Itchen and the Test ; and abundance of alluvial land suitable for reclamation. All these have assisted Southampton to develop into one of our major ports, linked by liner services to the four corners of the globe.

Relative Modernity

Yet Southampton is a comparative newcomer to the front rank of United Kingdom ports: it has no old-established industrial hinterland, and the full value of its natural assets was realised only with the coming of the steamship and with the establishment of railway communication with London. The germ of the modern port may be traced back to the early nineteenth century. The Napoleonic wars had emphasised the dangers of the Channel as an approach to London, when enemy attacks might be added to the normal hazards of heavy seas, fogs and contrary winds. A short cut to the capital was clearly desirable; a ship canal was mooted and a route was actually surveyed having its southern terminus at Portsmouth.

Then in 1831 came the suggestion, at a public meeting in Southampton, of a railway joining that port to London. Southampton would thus become an outport of London, both for passengers and goods. It was a time of great optimism. In 1833 Princess (later Queen) Victoria opened the Royal Pier to accommodate the steam packets linking the port with the Continent and the Channel Islands. The following year an Act was passed allowing the construction of a railway between Southampton and London, and in 1840 the line was completed.

Railway Interest

The Southampton Docks Company was formed in 1836, and from the first there were close connections between it and the railway company. It was Francis Giles, the far-sighted engineer of the London and Southampton Railway, who designed the early docks; his arrangement of sheds, sidings and quays survives almost unaltered today. Outer Dock was opened only two years after the arrival of the railway; Inner Dock followed in 1851, and other developments followed to keep pace with the ever-increasing trade. In 1892 the docks were taken over by the London and South Western Railway and today they are owned and operated by the British Transport Commission.

A subsidiary of the railway company soon reorganised the existing packet services of the port; a new fast steamer was commissioned for the Havre trade and two wooden paddle boats plied to and from the Channel Islands.

Produce Traffic

The first commercial crop of tomatoes in Guernsey appears to have been raised in a glasshouse in 1874. Today glasshouses occupy 10 per cent of the cultivable area of the island—there are 900 acres of them—and they yield annually more than 38,000 tons of tomatoes. Much of the crop reaches Southampton during the period May-October, largely for forwarding to London. The tomato season is preceded by the spring-flower season, which lasts from February to May. During these months millions of blooms are on sale in London within 48 hr. of being picked in Guernsey, and at the height of the season one may see two of the ships unloading 14,000 packages of daffodils, narcissi and tulips.

Jersey concentrates on early potatoes, which are in harvest in May and June. She, also, grows tomatoes, but in the open air, so that her season begins later than that of Guernsey and lasts from mid-July until the end of October. From Jersey, too, come flowers, lettuces, cauliflowers and the famous breed of dairy cattle. Southampton is the only port in the United Kingdom approved by the Ministry of Agriculture and Fisheries for the import of Jersey cattle. Three of the British Railways cargo vessels are so licensed, and there is lairage alongside the berth in the Outer Docks with accommodation for about 120 head. In the reverse direction to both islands go all manner of foodstuffs, raw materials and manufactures to supply the local populations with their daily needs. The *Haslemere* (313 n.r.t.), *Ringwood* (304) and *Whitstable* (310), cargo vessels on the Channel Islands route, have now seen more than 30 years' service, and the British Transport Commission has ordered two new ships, each of about 1,000 tons gross, to replace them. These have been designed especially for the rapid mechanised handling of cargoes, including containers, and they are expected to enter service in 1959.

French Freight

Cargoes to Southampton from Havre and St. Malo include apple pommace and potatoes and there is a busy cauliflower season from November to January. Early in December come quantities of mistletoe for Christmas and a single consignment may contain 27 tons, packed in 2,300 boxes. Baskets, barrels, boxes and sacks of Continental produce are handled speedily by electric crane and fork-lift trucks. The various seasonal cargoes in the short sea traffic combine to keep the docks busy the whole year round, and at peak periods there is virtually a daily service. Until the 1939-45 war the traditional home of the cross-Channel trade was Outer Dock. The passenger traffic is still dealt with here and the quayside equipment and accommodation have been modernised; but the cargo traffic is now handled at berths 20-23 in Empress Dock.

At Southampton the traffic with the Channel Islands is more substantial than that to and from the French ports. Last year twice as many passengers visited Jersey and Guernsey compared with Havre and St. Malo; the bulk of the cargo traffic also was with the Channel Islands. Ferried cars are, however, more equally distributed between the islands and the Continent.

The vessel now employed on the Havre passenger service is *Normannia*, built in 1952 and specially designed for that route. She carries 1,400 passengers and a crew of 71 at a speed of 19½ knots, and stabilisers ensure a comfortable crossing even in heavy seas. Accompanied cars may be conveyed on the passenger steamers (the rate is similar to that between Dover and Calais) or, alternatively, they may be shipped by the cargo steamer. The passenger fare is almost double that for the Dover—Calais crossing; but many people feel that it is well worth while exploring France by way of Southampton—Havre or Southampton—St. Malo, for by so doing they save a night in a hotel and virtually add a day to their holiday.

* * *

New Cold Store

Last week Southampton Docks imposing new cold store at the western end of the New Docks received its first ship, Blue Star Line's 7,114-ton *Brisbane Star*, which brought from New Zealand 1,100 tons of meat, 200 tons of butter and 15,000 cases of apples. This was the first direct shipment of meat and butter from New Zealand to Southampton since before the war.

The new cold store, built for British Transport Commission at a cost of about £500,000, is leased to and operated by the International Cold Storage and Ice Company and replaces the one at 40 berth, Old Docks, which was destroyed during the war. The new store, built close to the deep-water quay at berth 108, has four floors of which the ground

Unloading to the new cold store

floor has been designed for alternative use as a transit shed for general or refrigerated cargoes. The first and second floors have been fully insulated and have a total capacity of 419,000 cu. ft. Each floor is divided into six separate chambers and both air circulation and direct expansion refrigeration have been installed. This allows for a range of temperatures from minus 20 deg. to plus 45 deg. F., so that different commodities can be stored at their appropriate temperature and humidity.

Direct Discharge

On the water side there are receiving balconies running the full length of both floors thus enabling refrigerated cargo to be discharged direct from the ship's hold on to the balconies and thence in a matter of minutes to be under refrigeration again in the cold store. The third floor has not yet been insulated, but should this be required it could provide another 220,000 cu. ft. of cold storage.

All four floors are served by electric lifts by which produce can be delivered quickly to rail and road vehicles at covered loading bays. The quay is equipped with cranes capable of plumbing the holds and delivering direct to the cold store or transit shed or to rail and road vehicles alongside.

* No. 6 appeared June 27, 1958.

VEHICLE DESIGN BY B.R.S.

To Meet Known Requirements

THREE examples of vehicle development with an eye to special operational requirements were shown by British Road Services at its Hampstead depot in North London this week. They are: a 3-ton B.M.C. parcels van using the forward-control diesel chassis modified to provide an easy access cab; a Leyland Octopus with demountable body in the form of three 8-ton pallets; and a Douglas slave tractor for shunting fifth-wheel semi-trailers in large depots. All, it is emphasised, are experimental prototype units.

The object of the Tripad demountable body on the Leyland Octopus eight-wheel 24-ton gross chassis is to handle suitable flows of traffic more economically by removing the load intact on three sections of the body platform, thereby releasing the vehicle more speedily. Empty sections are then replaced for further loading. It is visualised that one or two sections could be transferred at intermediate depots along a route, obviating transhipdelays. The sections could also be transferred to rail vehicles.

Middle section removed from B.R.S. Leyland Octopus Tripad body, revealing transverse locking mechanism; right, Douglas slave tractor coupled to 16-ton tandem-axle semi-trailer

Body Pallets

Each 8-ft. long section is handled like a pallet, using one of the heavy-duty 8-ton fork trucks which are coming into service at an increasing number of B.R.S. depots for a variety of purposes. Slots are cut in the rave to receive the truck forks. Automatic alignment of the section on remounting is secured by means of male and female pyramids, two located diagonally for each section.

Before removing a section it is necessary to unlock it from the chassis. The quick-action locking device consists of either rotating cams or rollers (three variations are employed on the prototype vehicle) mounted on a threaded rod carried transversely on the chassis below the midway point of each section. These two cams or rollers engage tapered arms located on the underside of the section, locking it to the chassis. They are traversed on the rod through the medium of a detachable crank handle at the body side.

The sections have bevelled ends and sit between similarly designed fixed crossmembers. The foremost crossmember carries the fixed headboard; headboards could be fitted to individual sections if the need is shown. It is understood that the complete vehicle weighs just under 9 tons. Steel and timber is employed in the prototype bodywork, aluminium alloy, if suitable, would appreciably reduce all-up weight. Alternatively, the body sections, which weight about 8 cwt., may be regarded as containers.

Shunting Semi-Trailers

In the larger British Road Services depots, it is frequently necessary to move loaded and unloaded semi-trailers to and from loading banks and to parking places, etc. To accomplish this movement with service tractors means, with fifth-wheel trailers, that the full coupling and uncoupling operation must be undertaken on each occasion, involving raising and lowering the hand-operated landing gear. This is a relatively slow process and ties up road tractors.

It has therefore become desirable to have a one-man operated "slave" tractor capable of handling the largest tandem axle semi-trailers loaded and without the need for retracting the landing gear, simply lifting it clear of the ground. A machine of this type, based on the Douglas Tugmaster, has been produced at the request of B.R.S. by Douglas Equipment, Limited, Cheltenham. A hydraulically elevated fifth wheel hinged at its forward end and powered by two 8-ton rams is fitted with a levelling device which, within the required limits, automatically adjusts the height of this wheel to permit smooth and positive engagement with the rubbing plate of the semi-trailer. A three-position control lever for "lower," "raise" and "automatic control" lies adjacent to the driver's seat. Automatic control is used for lowering a semi-trailer and disengaging the fifth wheel without shock. The driver also locks and unlocks the coupling from his seat. The power unit is a Rootes four-cylinder 56-b.h.p. petrol engine; the gearbox provides two forward speeds and reverse.

Fork-Lift Attachment

The Douglas quickly detachable fork-lift is being produced for attachment to the rear of the unit. This will be operated in conjunction with the sub-frame which carries the fifth-wheel coupling and will be attached to the rear of the tractor. When the hydraulic sub-frame is raised the arms will, through a mechanical linkage, raise the forks from ground level to approximately 5 ft. Capacity will be 10 cwt. at approximately 2-ft. centres. B.R.S. also envisages using its units to tow trailer sweepers for cleaning yards. A towing hitch would be useful also for general duties. A later prototype will have a sideways control position for the driver to improve his view of coupling and uncoupling.

The prototype 3-ton delivery van based on B.M.C. forward-control diesel chassis incorporates walk-through cab

The tractor demonstrated had vacuum-assisted hydraulic brakes on all four wheels and a servo-assisted transmission brake applied simultaneously, so that there is no need to couple the trailer brakes. A hand brake connection is applied to the rear wheels and transmission brake. In future, however, it is intended to fit twin-line air-pressure brakes on the tractor, with trailer connections within reach of a seated driver so that he can release and apply trailer air brakes without dismounting.

Modified F.C. Chassis for Delivery Van

The B.M.C. 3-ton collection and delivery vehicle is an attempt to evolve an integral van body which provides minimum overall length for a given capacity (in this case 600 cu. ft.); easiest possible cab access; good driving visibility; clear walk-through cab to enable the driver to use the pavement side entrance; and sliding cab doors for safety and to make reversing easier. The floor height is a standard 3 ft. 3 in. The forward-control 3-ton chassis selected has been modified so that the driving pedals are situated 11 in. behind those of the standard chassis, and the steering column

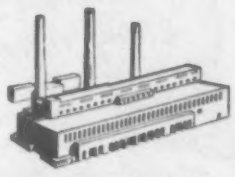
(*Continued on page 14*)

B.T.C. TRAFFIC RECEIPTS: NO. 7—1958

	Four weeks to July 13, 1958			Aggregate for 28 weeks		
	1958 (£ thousands)	1957	+ or —	1958 (£ thousands)	1957	+ or —
PASSENGERS						
British Railways	12,949	12,896	+ 53	70,336	72,496	— 2,160
London Transport Railways	1,845	1,676	+ 169	13,235	12,572	+ 663
London Transport Road services	3,274	4,582	— 1,308	23,137	32,301	— 9,164
Provincial and Scottish Buses	5,262	5,231	+ 31	30,890	31,641	— 751
Ships	868	892	+ 24	2,917	2,904	+ 13
Total Passengers	24,198	25,277	— 1,079	140,515	151,914	— 11,399
FREIGHT, PARCELS AND MAILS						
British Railways						
Merchandise and livestock	7,070	7,606	— 536	51,607	59,941	— 8,334
Minerals	3,240	3,897	— 657	25,802	28,934	— 3,132
Coal and coke	9,057	9,204	— 147	70,736	69,434	+ 1,302
Parcels, etc., by passenger train	3,998	3,851	+ 147	27,647	26,884	+ 763
Collection and delivery, etc.	952	1,016	— 64	6,732	7,325	— 593
Total Freight, British Railways	24,317	25,574	— 1,257	182,524	192,518	— 9,994
Others	4,408	4,464	— 56	29,488	29,616	— 128
Total Freight, Parcels and Mails	28,725	30,038	— 1,313	212,012	222,134	— 10,122
Aggregate	52,923	55,315	— 2,392	352,527	374,048	— 21,521

Comparisons are affected by increases in rates which have been authorised from time to time, by the London Transport road services strike from May 5 to June 20, 1958, and by the restrictions in oil supplies which operated from November 7, 1956, to May 14, 1957

A need is met *by*



POWER STATIONS Cleveland have played their part in meeting Britain's need for more electrical energy. The huge steel frames have been fabricated at top speed with highly developed welding techniques. Members are produced up to 95 ft. long and 42 tons in weight, with a tolerance in length, twist or bow not exceeding ½ inch.

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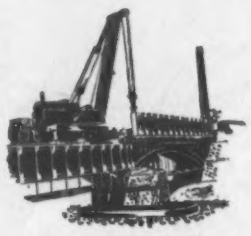
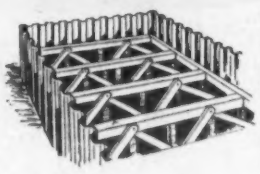


RAILWAYS Movement of merchandise and people becomes yearly a greater task. Cleveland are helping not only with the construction of new bridges, but the re-construction and repair of old bridges.



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NEWS FROM ALL QUARTERS

Netherlands Electrification Landmarks

With the opening of an electrified section between Alkmaar and Den Helder (in the province of North Holland), the postwar electrification of the Netherlands Railways system has been provisionally completed. The total length of the electrified system is now 50.4 per cent of the total. By the autumn of this year it will be 50 years since the beginning of the electrification of the Netherlands Railways.

New Montreal Freight Yard

Earth is now being moved for an 800-acre freight hump yard in Montreal, to be the largest in the North American continent. Being built by Canadian National Railways for operation by 1961, the yard will employ modern electronics, radio, television and automatic computers to sort out a daily input of up to 7,000 freight cars for as many as 100 destinations. Work started in 1956. There will be 84 sorting roads.

Selling Transport by Rail

How Not to Hide Our Light Under a Bushel is the title of an attractive booklet on salesmanship issued by the commercial officer of the North Eastern Region of British Railways, Mr. W. H. Vine, to commercial representatives, goods agents and stationmasters. The technique of selling transport and making the correct commercial approach is put across in clear and concise language illustrated with apt thumbnail cartoons.

Wrongs and Rights of Lifting Weights

A booklet entitled *Lifting and Carrying* has been published by the Ministry of Labour in a series on industrial safety, health and welfare subjects. In industry alone some 59,000 accidents a year are caused in the handling and carrying of goods, it is stated. The booklet explains in clear language, and with the aid of photographs the right and wrong way of dealing with loads, and it draws attention to the most common faults committed by workers. It points out that many accidents could be avoided with greater care, better safety measures and an understanding of the principles of lifting, which depend more on skilful use of the right muscles than on brute force.

Office Dispersal Urged

Unless the increase in office workers coming into Central London was halted there was a danger of transport coming to a standstill, said Sir George Pepler, former chief technical adviser to the Ministry of Town and Country Planning, at a London conference on office location in the London region. One speaker enumerated the advantages of moving to outer suburbs as: avoidance of the physical discomforts of congestion; lower rents; and the reduction in building costs per head of staff from a maximum of £2,500 in the City to about £1,000 outside. Another company which has moved its head office staff of 150 to Surbiton, reported that it had canvassed 20 other firms which had dispersed themselves from Central London to the suburbs and beyond, and all agreed that the incidence of sickness was far less, more work was done, and staff was easier to recruit.

Brienz–Rothorn Rack Railway

Progress in Swiss railway electrification and engineering has claimed another victim. The Brienz—Rothorn steam railway, one of the last two cog-wheel mountain railways operated by steam, will soon disappear. A cable-car system will replace it.

Trailer Arrangements Criticised

The annual meeting of the Merseyside Area Accident Prevention Federation of Ro.S.P.A. has passed a resolution to be sent to local M.P.s and to the national committee asking that all towing vehicles should have a secondary means of securing trailers.

Newcastle Seeking a Traffic Engineer

The newly formed Traffic Committee of Newcastle upon Tyne City Council has decided to go ahead with its proposal to appoint a traffic engineer to handle the city's traffic problem. Mr. D. Smith, chairman of the committee, expressed the view that the appointment of a traffic engineer was unique in Britain.

Oil Search in New Zealand

The Shell Oil Company of New Zealand is preparing to start full-scale drilling operations early in 1959 for oil in the Taranaki district of North Island. It is expected that operations will extend between 10,000 and 12,000 ft. Seismic surveys began in 1955 and a survey party had drilled over 2,000 shallow wells in nearly £1 million worth of preliminary work.

Loan to African Federation Railways

A $19 million loan to the Federal Government of Rhodesia and Nyasaland from the International Bank for Reconstruction and Development will, according to a statement issued from railway headquarters, be used towards financing the general development programme of the railways covering the period of 2½ years from January 1, 1958, and amounting to approximately £25 million. This programme includes the strengthening and improvement of existing permanent way by the replacement of rails and sleepers of heavier section, the construction of regradings and deviations and the replacement of bridges by stronger bridges. The acquisition of additional locomotives and rolling stock, orders for which in most cases have been placed, is also covered.

Netherlands Railways Profit Falls

Despite increased charges, Netherlands Railways profit during 1957 was only 3.5 million guilders, against 10.4 million in 1956. The annual report ascribes this to "the general economic trend," which manifested itself in a drop in passenger traffic and a somewhat larger decrease in goods traffic. Higher charges were counterbalanced by an increase in wages, higher costs of electrical power and diesel oil, and the increase in depreciation charges and interest payments. The board proposes to carry forward the whole of the profits and to pass the 1957 dividend. Total revenue rose from 488.2 million guilders to 506.7 million. Expenditure went up from 447.9 million guilders to 503.3 million.

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AP224

COMMERCIAL AVIATION

U.S. View on Decca

H.P. TREBLE ONE

WITHIN its area of fixing cover, the British Decca-Dectra long-range navigation system provided a new concept in the presentation of navigational fixing and its accuracy was superior to the standard systems against which it was checked, according to a report just issued by the Atlantic division of Pan American Airways, which carried out an evaluation of Dectra aboard one of its Boeing Stratocruisers during the early months of this year. During the trials, 27 Atlantic crossings were made with a total flight time of 435 hours. The report says that the system was found to be almost unaffected by precipitation static and continued to function when all other radio reception was swamped out. Once the indicators and chart had been set up, operation was completely automatic except for mid-point adjustment, which could be done in a minute. Daylight coverage extended from Newfoundland to Ireland and from Iceland to the Azores and night coverage was considerably greater. The principal disadvantage of Dectra of lack of cover west of Newfoundland could be remedied by a ranging station on the American Atlantic coast.

Britannia for Air Charter

A Britannia air liner, to be operated by Air Charter, Limited, is to enter service this September. The aircraft is to be used for general charter work and will also be available for trooping. The Britannia 307 for Air Charter will be furnished to carry over 100 passengers or fully equipped troops, and will with maximum load have a range of 4,000 miles flying at a cruising speed of nearly 400 m.p.h.

Proteus Overhaul Life

Three months after the increase in overhaul life of the British Proteus 705 turboprop engine to 1,300 hr., the Air Registration Board has now granted authorisation for a further extension to 1,600 hr. between overhauls. After only 18 months in service the overhaul life of the Proteus now stands at a figure which normally takes several years to achieve. Engines are, in fact, already being run on trial to 1,900 hr. between overhauls.

Nigerian Airline

The agreement for establishment of the Nigerian Airline was signed in Lagos on July 25 by representatives of the Nigerian Government (the holder of 51 per cent of the shares), the British Overseas Airways Corporation and Elder Dempster Lines, Limited, of Liverpool. When West African Airways Corporation closes down at the end of September the Nigerian Airline will begin to function, with its first international flight to London on October 1. The separate Ghana Airline was inaugurated last week.

New Services Approved

The Minister of Transport and Civil Aviation, after considering the recommendations of the Air Transport Advisory Council, has approved the operation of the following air services:

An internal service between Newcastle and Blackpool; Silver City Airways, Limited, until March 31, 1960.

A normal scheduled service between Birmingham and Palma; Eagle Airways, Limited, until October 31, 1962.

A normal scheduled service between Newcastle and Bergen; B.K.S. Air Transport, Limited, until March 31, 1965.

A normal scheduled service between Newcastle and Basle; B.K.S. Air Transport, Limited, until March 31, 1965.

First Electra Delivery

The Lockheed Aircraft Corporation fulfilled its first Electra contract on July 10 when one of the new aircraft was delivered to the Allison Division of General Motors at Indianapolis. Allison will operate the air liner in continued customer-support development of its Electra power plant combination—the Model 501 engine and Aeroproducts propellers. It will operate on airline types of schedules from Indianapolis to gain representative route experience for the power plant combination. The delivery was believed to have marked the first time an engine-propeller manufacturer had purchased an air liner to complete power plant performance evaluations prior to delivery of a new transport aircraft to commercial airlines. Four other Electras have been accumulating flying hours since the first machine flew on December 6. Altogether they have totalled nearly 600 hr. in 390 separate flights.

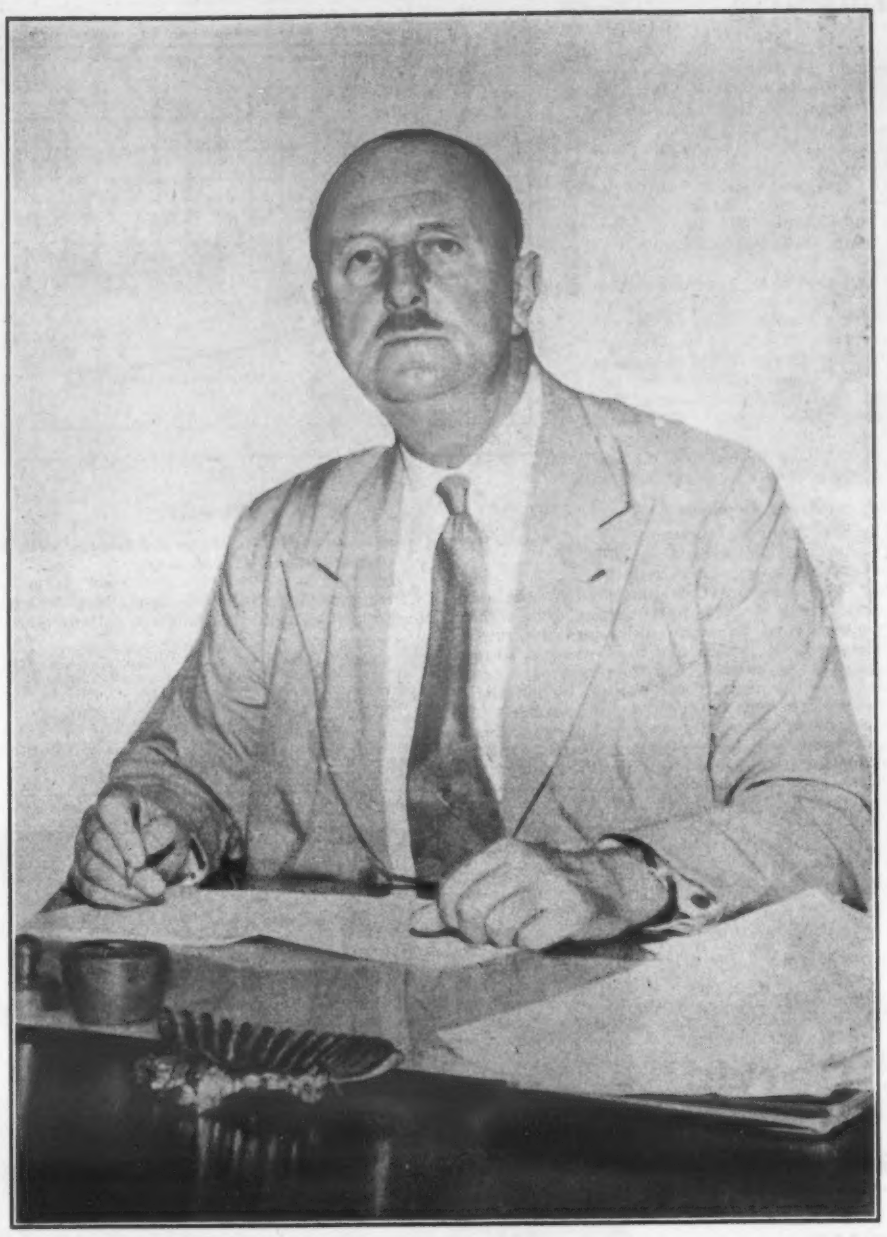
Airport Activity

Air transport movements at United Kingdom aerodromes in May, 1958, numbered 30,269, an increase of 8 per cent compared with May, 1957. The number of passengers handled in the same period increased by 3 per cent to 594,157. Freight traffic amounted to 15,925 short tons, an increase of 26 per cent over May, 1957. Post Office mail set down and picked up amounted to 1,542 short tons. At London Airport there were 11,308 air transport movements, an increase of 11 per cent over May, 1957, and 324,584 passengers were handled, an increase of 5 per cent. Airports at which passenger traffic increased considerably over May, 1957, were Newcastle (Woolsington) by 61 per cent to 2,186, Tiree by 50 per cent to 372, Ferryfield by 40 per cent to 17,544, Croydon by 34 per cent to 4,816, Blackpool (Squires Gate) by 34 per cent to 4,618, Manchester (Ringway) by 17 per cent to 43,744, and Southend (Rochford) by 12 per cent to 12,764.

The H.P. 111

The R.A.F. has been given details by Handley Page, Limited, of a new high-performance transport aeroplane, the H.P. 111, or Treble One, which will be available in 1962. This aircraft, with a design based on that of the sonic Victor, the well-known V-bomber, combines the roles of inter-continental strategic and tactical theatre-of-war transports. Travelling at nine miles a minute the Treble One would carry 200 soldiers or nearly 27 tons of military equipment 3,800 miles. Over 5,750 miles it would take 90 soldiers or nearly 13 tons of freight. It would fly above 40,000 ft., but pressurised and air-conditioned at 6,000-ft. conditions. In only 7 hr. 27 Treble Ones could have transported the 3,500 soldiers and more than 90 tons of stores airlifted to Cyprus recently in 120 hr. by 45 aircraft of different types. As few as six Treble Ones could have finished the entire operation (carrying 18 tons of guns as well) in 49 hr.—well under half the time taken by the 45 assorted aircraft involved. It is thought 1,000 yd. of runway will be sufficient for landing, because of blown flaps, working in a flow of air tapped from the jet engines, and powerful reverse-thrust. As a civil air liner a 168-passenger layout has been worked out and 7¼d. a ton-mile is the estimated cost of operation on certain routes.

NIGERIAN RAILWAY CHAIRMAN



Colonel Sir RALF EMERSON, C.I.E., O.B.E., M.I.C.E., M.Inst.T.

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It was announced last month that Colonel Sir Ralf Billing Emerson, first chairman and general manager of the Nigerian Railway Corporation upon its formation in 1955, had on June 30 delegated the functions of general manager to Mr. R. K. Innes, who was previously chief mechanical engineer, but that he would continue as chairman of the corporation. He will reside in England and visit Nigeria as required for meetings. Born in 1897, Sir Ralf was educated at Bradfield College and at the Royal Military Academy, which he joined from the ranks of the Royal Flying Corps in 1917. Commissioned in the Royal Engineers in the following year, he served in India, Iraq, and England until 1927, when he was posted to the Great Indian Peninsula Railway. There he had experience in the engineering, transportation, and stores departments and the general manager's office. When recalled for war service in 1939, he was acting general manager. At the end of 1943 he was posted back to the G.I.P. Railway, again as acting manager, and was later confirmed in this position. He was Chief Commissioner of Railways in India from May, 1946, until his retirement in September, 1947. Returning to England he joined the Dowsett Group of Companies in 1948 and was a director of the holding company and deputy chairman of the operating companies of the group in England until his appointment as chairman and general manager of the Nigerian Railway in 1953. He received the O.B.E. in 1943, was created a C.I.E. in 1946 and was knighted in the Birthday Honours of 1956. He is a member of the Institution of Civil Engineers and of the Institute of Transport. Recently he became a director of the West African Provincial Insurance Co. Limited, of Nigeria.

IN PARLIAMENT

Rules on Motorways

RURAL BUS ROUTES OFF

IN addition to his statement, reported in our last issue, that there will be no speed limit on goods or public service vehicles using the Preston by-pass motorway, the Minister of Transport has announced other conditions of use intended to apply to this section of road experimentally until August 1, 1959. There will be a prohibition on stopping on the driving surface except in the case of breakdown or collision, to avoid collision, when ordered or signalled by the police, or in obedience to a legal traffic sign. Halting on the hard shoulder will also be prohibited except in the event of distress or breakdown. Crossing, parking or driving on the central reservation will be prohibited.

A motorway code will be prepared which will contain guidance to drivers who use these new roads; it will be designed to emphasise the differences between driving on a motorway and on an ordinary road. The code will prescribe the principles of safe driving on roads designed for high speeds, and will stress the special danger of fatigue and drowsiness in such circumstances.

Prominence will be given to the importance of observing lane discipline and of giving long advance warning when joining or leaving a motorway. Advice will be given on the correct method of approaching a motorway and with regard to safe movement from one traffic lane to another. Other matters which will be covered in the code will include advice on driving at speed after dark and full particulars of the traffic signs which will be used.

Victoria Line Pigeon-Holed

Asked what conclusions he had reached on the financing and construction of the Victoria Underground line, MR. H. WATKINSON, the Minister of Transport, said that he intended to keep this project under review with the object of including it in the B.T.C. capital expenditure programme as soon as resources permitted.

Rail Branches Must Go

He had recently had a very useful discussion with all the chairmen of the area transport users consultative committees, said MR. H. WATKINSON, and was sure that they were fully aware of the problem of rural transport, including the matter of providing alternative bus services when rail services were withdrawn. On the other hand, the British Transport Commission had to try to get its finances in order, and therefore he must not stand unduly in its way in cutting its costs.

Aircraft Noise Testing

While on the last visit to America, said the Minister of Transport, he had issued a very warm invitation to American operators to bring the Boeing 707 jet air liner to London as soon as possible and test it under actual conditions in order to ascertain its noise level. Generally it had been agreed to try out aircraft in normal passenger operating conditions at the airports concerned in order that each authority can say what it feels is the minimum operational restriction that will protect the interests of people living round the airport.

Rural Bus Mileage Abandoned

During 1955, 1956 and 1957, the number of road service licences voluntarily surrendered for bus services in rural areas in England and Wales which were not replaced either partially or entirely by new services, and the total route mileage involved, were as follows (the Minister of Transport):

	Number of licences	*Total route mileage*
1955	45	610
1956	61	680
1957	70	801

In some of these cases other services were already operating and continued to operate along the routes in question.

Goods Vehicle Enforcement Work

The number of staff permanently assigned to enforcement of the Road Traffic Acts has been increased from 63 in 1956 to 95 at the present time, MR. G. R. NUGENT told MR. ERNEST DAVIES. By September there should be a full complement of 100 examiners in post. In addition, the number of driving and traffic examiners is being increased by a competition now in progress, and from the end of this year it should be possible to release an average of about 50 of these examiners from driving tests to help on enforcement work. Mr Davies commented that he was glad to hear of an increase, at long last, in the number of enforcement officers, but he asked Mr. Nugent if he was aware that the Metropolitan Licensing Authority, in revoking vehicles on two carriers' licences, stated recently that unless this breaking of the law, which was considerably on the increase, came to an end, it would be necessary to take further steps against it? In other words, was not there evidence from the licensing authorities of widespread infringement of the statutory regulations?

★

Forthcoming Events

August 8.—Norbury Transport and Model Railway Club. Wey and Arun Canal Tour.

August 9.—British Railways (Southern Region) Lecture and Debating Society. Visit to Liverpool Docks and Speke Airport.

August 10.—Railway Correspondence and Travel Society. "Northern and Eastern" Rail Tour.

August 17.—Omnibus Society (Midland and North Western). Visit to Potteries area independent operators.

August 21.—Institute of Road Transport Engineers (Metropolitan). Visit to L.T.E. Works, Aldenham.

August 24.—Omnibus Society (Northern). Visit to Northern General Transport Co., Limited. Meet Chester-le-Street Depot, Gateshead. 2.15 p.m.

September 1-7.—Society of British Aircraft Constructors. Flying display and exhibition. At Farnborough. (Public days September 5, 6 and 7.)

September 5.—Railway Club. Re-Enactment by Mr. K. G. Carr, "The Great Bristol Contest of 1835." At 320 High Holborn, W.C.1. 7 p.m.

September 8-12.—Municipal Passenger Transport Association. Annual conference. At Blackpool.

September 8-13.—First International Congress of the Aeronautical Science. At Madrid.

September 13-14.—Railway and Canal Historical Society. Visit to remains of Somerset Coal Canal and railways, Dorset and Somerset Canal, broad gauge G.W.R. architecture and Kennet and Avon Canal features. Based on Bradford-on-Avon.

September 26-October 4.—Commercial Motor Transport Exhibition. At Earls Court.

September 26-28.—British Railways (Southern Region) Lecture and Debating Society. Weekend visit to Scotland including Thornton Marshalling Yard and the Forth Bridge.

September 28-October 7.—International Railway Congress. At Madrid.

September 29.—Passenger Vehicle Operators Association. Annual dinner-dance. At Grosvenor House, London.

October 4.—Omnibus Society. Annual dinner. At Clarendon Restaurant, Hammersmith, W.6. 7 for 7.30 p.m.

October 13-15.—Road Haulage Association. Annual conference. At Torquay.

October 26-31.—International Road Federation world meeting. At Mexico City.

November 5-16.—International Motor Show. At Turin.

MODERN AIRWAYS and COMMERCIAL AVIATION SECTION

VANGUARD ECONOMICS

Effect of Payload Increase

LAST week Vickers-Armstrongs (Aircraft), Limited, announced a large increase in payload for the Vickers Vanguard propeller-turbine air liner which is due to come into airline service in 1960. This payload increase—one of 4,000 lb.—gives the Vanguard what the manufacturer believes to be the most economical seat-mile costs ever offered to the airline industry. In a 139-seat thrift class configuration the Vanguard's direct operating costs (A.T.A. formula) are as low as two cents (1.71 pence) at just above 100 miles stage length, and drop to one cent (.85 pence) and below at 900 miles and beyond. These are U.S.A. operating costs; European ones would be in the order of 2d. a seat-mile at 250 miles and 1.35d. at 1,000.

In the view of the manufacturer, the new Vanguard, used as a 139-seater (six abreast, 34-in. seat pitch) can reduce air fares by up to 50 per cent in Europe (using European costs) and by up to 30 per cent in the U.S.A. (A.T.A. costs) compared with current tourist- or coach-class rates. It can achieve these results at a 65 per cent passenger load factor while allowing for a 10 per cent profit margin. Whether operated in this way, or as a tourist-class or mixed-class vehicle, the new Vanguard is, says the company, the biggest potential profit earner yet designed for short- and medium-haul air routes.

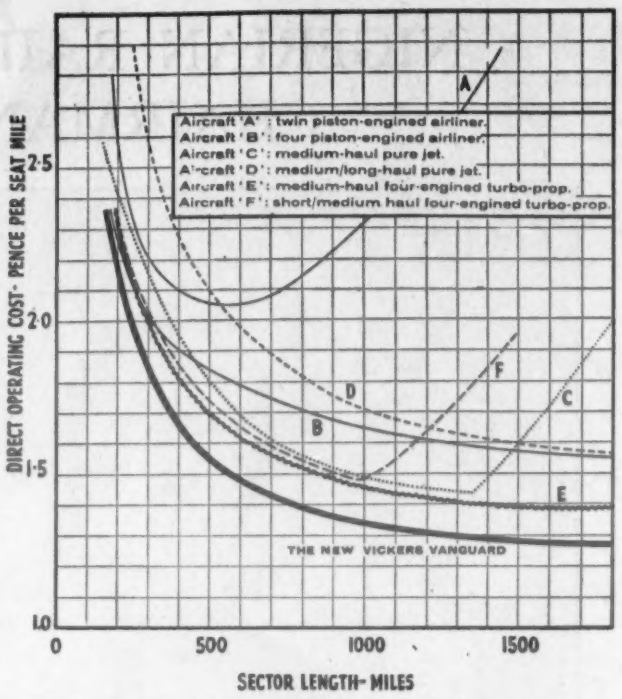
Airline Crisis

A spokesman of Vickers-Armstrongs stated: "All over the world the airline industry is having a hard time financially. Traffic growth has fallen off at a time when there is considerable financial investment in new big pure jets for long-haul routes. This situation makes the economic problem of equipment for the short and medium journeys (on which 80 per cent of air passengers travel) the more acute. What is clearly needed for these high-density routes is an aircraft which, while retaining competitive impact, can attract a substantial increase in passengers and which can make money. The new Vanguard can do both these things in a way in which no other comparable aircraft can rival."

The company foresaw, the spokesman added, a "keeping down with the Jones's" race by appeal to the purse in order to attract fresh traffic from the countless thousands who still used surface travel because they couldn't afford to fly. The new Vanguard, with its big capacity and its 425 m.p.h. speed (later to go up to 450 m.p.h.) was tailor-made for such operations.

Freight Capacity

The improvement in payload of the Vanguard has been achieved by structural alterations and strengthening. The 1,360 cu. ft. of underfloor freight space remains unaltered. This freight space, achieved for only 1,000 lb. of structure and a loss of 5 m.p.h. in cruising speed, is sufficient to allow some 10 tons of freight to be carried, thus increasing the profit potential of the aircraft still further by making it an off-peak money earner. As an example, the new Vanguard, in a fully occupied 97-seat tourist layout, could still have over 900 cu. ft. capacity available for freight and carry 400 lb. mail.



Costs worked out by an airline operator for Europe with a Vanguard taken at 138 seats

The following are the new figures for the Vickers Vanguard, with old figures given in brackets:

Max. take-off	141,000 lb. (same)
Max. landing weight	121,000 lb. (115,000 lb.)
Max. zero-fuel weight	112,500 lb. (105,500 lb.)
Max. paylcad as limited by zero-fuel weight and allowing for anticipated weight growth ..	29,000 lb. (25,000 lb.)
Still air range with 29,000 lb. payload, without reserves ..	2,300 st. miles (3,200 st. miles)
Range with 19,100 lb. payload and no reserves	3,400 st. miles.

Red and white 'Darvic' add brightness to coach journeys

Semi coaches built by Weymann's Ltd. for The Potteries Motor Traction Company Limited have seat backs and side panels made from Red 'Darvic' and lining underneath luggage racks from white 'Darvic'.

SEAT BACKS and side panels beneath windows—red 'Darvic' p.v.c. sheet; lining underneath luggage racks—white 'Darvic'—this is a delightfully gay coach to ride in. Easily shaped 'Darvic' is the ideal material for coach interiors. It is so easy to clean. It will not rust or corrode and has dimensional stability in atmospheres of varying humidity. 'Darvic' is hygienic, too, and is resistant to staining by tobacco fumes.

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BRITISH RAILWAYS

Locomotive and Rolling Stock Programmes for 1958

LOCOMOTIVES SCHEDULED FOR BUILDING

BRITISH RAILWAYS WORKSHOPS

Quantity	*Type*	*Locomotive numbers*	*Building works*
DIESEL			
37	B.R.Std. 0-6-0 350-h.p. diesel-electric shunter	D3422–D3438	Crewe
		D3573–D3592	
81	"	D3408–D3418	Derby
		D3503–D3572	
15	"	D3595–D3607	Horwich
68	"	D3477–D3496	Darlington
		D3612–D3651	
		D3672–D3679	
27	"	D3500–D3502	Doncaster
		D3608–D3611	
		D3652–D3664	
		D3680–D3686	
32	0-6-0 200-h.p. diesel-mechanical shunter	D2004–D2035	Swindon
18	"	D2044–D2061	Doncaster
13	2,000 - h.p. main - line diesel hydraulic Type 4	D800 –D812	Swindon
3	2,300 - h.p. main - line diesel-electric Type 4	D1 –D3	Derby
10	1,160 - h.p. main - line diesel-electric Type 2	D5000–D5009	Derby
	Total diesel locomotives scheduled for construction in British Railways workshops — 304		
ELECTRIC			
6	Southern Region type d.c. main-line electric	E5000–E5005	Doncaster
	Total electric locomotives scheduled for construction in British Railways workshops — 6		
STEAM			
43	B.R. Standard 2-10-0 Class 9	92165-92177	Crewe
		92221-92250	
20	"	92184-92203	Swindon
	Total steam locomotives scheduled for construction in British Railways workshops — 63		
	Total locomotives of all types scheduled for construction in British Railways workshops — 373		

CONTRACTORS

			Contractor
10	2,000 - h.p. main - line diesel-electric Type 4	D200 –D209	English Electric Co., Limited
5	2,000 - h.p. main - line diesel-hydraulic Type 4	D600 –D604	North British Locomotive Co., Limited
20	1,200 - h.p. main - line diesel-electric Type 2	D5700–D5719	Metropolitan-Vickers Electrical Co., Limited
8	1,100 - h.p. main - line diesel-electric Type 2	D5900–D5907	English Electric Co., Limited
15	1,160 - h.p. main - line diesel-electric Type 2	D5300–D5314	Birmingham Railway Carriage and Wagon Co., Limited
17	1,250 - h.p. main - line diesel-electric Type 2	D5503–D5519	Brush Traction, Limited
10	1,000 - h.p. main - line diesel-electric Type 2	D6100–D6109	North British Locomotive Co., Limited
6	1,000 - h.p. main -line diesel-hydraulic Type 2	D6300–D6305	North British Locomotive Co., Limited
1	1,160 - h.p. main - line diesel-electric Type 2	D5320	Birmingham Railway Carriage and Wagon Co., Limited
4	1,000 - h.p. main - line diesel-electric Type 1	D8016–D8019	English Electric Co., Limited
9	800-h.p. main-line diesel-electric Type 1 —	D8201–D8209	British Thomson-Houston Co., Limited
10	800-h.p. main-line diesel-electric Type 1	D8400–D8409	North British Locomotive Co., Limited
11	0-4-0 300 - h.p. diesel-hydraulic shunter	D2900–D2910	North British Locomotive Co., Limited
8	0-6-0 200 - h.p. diesel-mechanical shunter	D2266–D2273	Drewry Car Co., Limited
13	"	D2573–D2585	Hunslet Engine Co., Limited
8	0-4-0 200 - h.p. diesel-mechanical shunter	D2410–D2417	Andrew Barclay Sons and Co., Limited
25	0-4-0 200 - h.p. diesel-hydraulic shunter	D2720–D2744	North British Locomotive Co., Limited

Total diesel locomotives to be constructed in contractors' workshops — 180

Grand Total, locomotives of all types scheduled for construction during 1958 — 553

PASSENGER AND FREIGHT VEHICLES SCHEDULED FOR CONSTRUCTION

Passenger carriages

Locomotive-hauled	*Multiple-unit diesel*	*Multiple-unit electric*	*Non-passenger coaching stock*	*Wagons (freight and service)*	*Containers*	*To be built at*
—	256	—	—	3,100	—	Derby
228	—	—	17	2,000	730	Wolverton
—	—	—	50	—	2,780	Earlestown
28	—	60	—	—	—	Doncaster
104	—	100	—	—	—	York
—	—	—	—	2,850	—	Shildon
—	—	—	—	2,300	550	Faverdale
30	127	—	104	1,150	530	Swindon
—	80*	275	—	—	—	Eastleigh
—	—	—	—	2,100	—	Ashford
—	—	—	—	100	—	Lancing
—	—	—	70	—	—	Cowlairs
—	—	—	—	—	490	St. Rollox
390	463	435	250	13,600	5,080	Total railway workshops
240	707	—	450	27,400	3,820	Contractors
630	1,170	435	700	41,000	8,900	

* Diesel-electric

Total diesel and diesel-electric vehicles authorised — 3,436

	Diesel	*Diesel-electric*	*Total*
No. built up to end of 1957 ..	1,225	102	1,327
No. expected in 1958	1,090	80	1,170
Remaining for delivery in 1959 ..	939	—	939
	3,254	182	3,436

BOWES REPORT

(*Continued from page* 3)

The Committee does not recommend that any inland waterway which is now owned and managed otherwise than by the British Transport Commission, should be nationalised, but the British Transport Commission (or the proposed Inland Waterways Corporation) should have power to acquire by agreement with the owners. A chapter is devoted to the problem of the Norfolk and Suffolk Broads. Recommendations are that the work of dredging and reinstatement, now being carried out by the Great Yarmouth Port and Haven Commissioners, should go forward under wider powers with more revenue.

The Committee recommends that technical and economic investigations should be put in hand to assess the value of:

(i) making the Grand Union Canal navigable by 90-ton craft between Birmingham and the Port of London without transhipment; and

(ii) making a new waterway, usable by large craft, to link the Mersey, via the Weaver, with a terminal near Wolverhampton.

The Committee considers that the mass of special Acts, some going back to the 18th century, under which the nationalised canals are now administered, should be swept away and replaced by a modern code of rights and duties fashioned to meet present-day conditions.

COMMERCIAL VEHICLE TEST

*Volkswagen Transporter Dropside Pick-up**

15 CWT. IN THE CONTINENTAL MANNER

HAVING scored almost runaway successes in many countries of continental Europe, the range of Volkswagen Transporters, which includes 15-cwt. capacity pick-up and side-loading vans, the Kombie three-, six- or nine-seat dual-purpose vehicle, an eight-passenger bus or coach and a two-stretcher ambulance, is now freely available in this country through the numerous distributors appointed by V.W. Motors, Limited, 32-34 St. John's Wood Road, London, N.W.8. Volkswagen vehicles are competitively priced and backed by an efficient service organisation. Undoubtedly, more of them are going to be seen on the roads of Britain, though their success in competition with the high quality and value for money of the home product is likely to be meagre compared with what has been achieved in many markets. Nevertheless, the range has made a serious challenge in a number of our export markets and for comparative purposes and for the record we recently subjected a 15-cwt. pick-up to examination and road test, the results of which are recorded here.

Hinged sides and tailboard make loading of the 45 sq. ft. floor area easy from any position and, right, an additional 20 sq. ft. of floor area is available for shallow pieces behind the hinged flap between the wheels

Sturdy Original Design

Most readers will already be familiar with the general design of the Volkswagen, in which an air-cooled horizontally opposed four-cylinder petrol engine, with large cylinder bores and very short stroke, is mounted behind and in unit with the rear driving axle and drives through a single dryplate clutch and four-speed synchromesh gearbox, which is also mounted in unit with and forward of the rear axle. Thus, the whole of the power transmission mechanism forms one compact unit. This is flexibly mounted directly in a welded pressed-steel body-chassis structure, which is strengthened by a channel-section framework on the underside, the drive to the rear hubs being taken through two half shafts with flexible joints at the inner ends. The rear axle has two reduction stages, one of 4.4 to 1 through a spiral bevel gear and two-pinion differential in the central unit and a second of 1.4 to 1 through straight spur gears in the hubs, giving an overall reduction of 6.16 to 1.

Independent suspension is employed all round, with laminated square-section torsion bars and double trailing arms at the front and adjustable solid round-section torsion bars and swinging half axles at the rear. Damping is by telescopic shock absorbers at front and rear and rubber suspension stops are fitted. Engine cooling is obtained by a fan, mounted on an extension of the single-belt-driven generator shaft, which circulates air through cowlings surrounding the finned cylinders. The air flow is thermostatically controlled and additional cooling is provided by a lubricating-oil cooler positioned in the air stream. An oil-pressure-operated valve permits the circulating oil to by-pass the cooler when the engine is cold.

Notable Features

Among other notable points in design is a built-in heating and ventilating system. The heating system uses hot air tapped off from the engine cowling and its flow into the vehicle interior can be stopped or adjusted by a knurled knob by the driver's seat. An additional control is provided by an adjustable distributor on the cab front panel and two windscreen demister vents are provided. As well as half-sliding door windows and swivelling quarter lights, fresh air can be admitted through a closable vent above the windscreen into a trunk from which it can be circulated in the cab and, in closed vehicles, throughout the body. In the case of a well-worn or badly maintained engine, it might be necessary to have this going at the same time as the heater to counteract the effect of engine fumes carried in by the warm air.

Getting in and out is easy through wide doors but the seat is not adjustable; right, a square key opens the valence for access to the air-cooled engine and items requiring frequent attention are all conveniently positioned

The Volkswagen layout provides some advantages and some disadvantages compared with conventional designs. Underfloor positioning of the engine permits a three-seat forward-control cab with easy access from either side and provides good body capacity on a short wheelbase but gives a high loading level over the engine position and generally makes the engine less accessible for day-to-day maintenance. With the engine at the rear, however, accessibility of the Volkswagen engine through a hinged door is no more difficult than under a cowling in the average front-engined

(*Continued on page 12*)

* No. 449 in the MODERN TRANSPORT series of road tests.

TEST RESULTS AT A GLANCE

Vehicle Details

MAKER: Volkswagenwerk G.m.b.H., Wolfsburg, Germany. (U.K. company: V. W. Motors, Limited, 32-34 St. John's Wood Road, London, N.W.8.)

TYPE: 15-cwt. pick-up truck.

ENGINE: Volkswagen horizontally opposed four-cylinder four-stroke air-cooled petrol, mounted at rear; 3·03 in. (77 mm.) bore, 2·52 in. (64 mm.) stroke; capacity 72·74 cu. in. (1,192 cc.); Bosch coil ignition with automatic timing; single Solex downdraught carburetter; compression ratio 6·6 to 1; 36 b.h.p. (S.A.E.) at 3,700 r.p.m.

TRANSMISSION: **Clutch,** single dryplate; **gearbox,** four-speed synchromesh (except first), ratios 3·6, 1·88, 1·23 and 1 to 1 forward, 4·63 to 1 reverse; **rear axle,** spiral bevel first reduction in casing unit-mounted with engine and gearbox, second-reduction hub gears driven through swinging half axles, overall reduction 6·16 to 1.

BRAKES: Hydraulically operated on four wheels; handbrake by cable to rear wheels.

TYRES: 6·40-15.

WHEELBASE: 7 ft. 10½ in. (2·4 m.).

WEIGHT: In licensing order 18¼ cwt. (2,094 kg.); in kerb trim 19¼ cwt. (978 kg.).

PRICE: £680 7s. 3d. (including U.K. purchase tax); tilt and hoopsticks £40 extra.

Test Results

ROUTE: London—Glasgow return and standard test route in Kent and Surrey

CONDITIONS: Mainly cloudy and cool with much rain.

RUNNING WEIGHT: Over standard test route 1 ton 12¼ cwt. (1,664 kg.) plus driver.

PAYLOAD: 1¾ cwt. (685·8 kg.).

FUEL CONSUMPTION: Over standard 15-mile out and back route continuous running 28·3 m.p.g. (10 km./litre) at 28 m.p.h. (45 k.p.h.) average speed.

GROSS TON/M.P.G.: 48 (17·3 tonnes/km./litre).

PAYLOAD TON/M.P.G.: 17·5 (6·3 tonnes/kg./litre).

MAXIMUM GRADIENT CLIMBED: 1 in 4¼ (23·5 per cent).

TURNING CIRCLE: 40 ft. (12·2 m.) wheeltrack.

ADJUSTMENTS DURING TEST: None.

ACCELERATION:

Averages of four runs, two in each direction, through gears:
0-20 m.p.h. 5·5 sec.
0-30 m.p.h. 11·6 sec.
In direct drive:
10-20 m.p.h. 13 sec.
10-30 m.p.h. 26 sec.

BRAKING: Average of four emergency stops from 30 m.p.h. on dry level tarmac 44 ft (13·4 m.); equivalent to 22 ft. per sec. per sec. or 0·68g. overall retardation; Tapley meter, 75-78 per cent. Handbrake only from about 20 m.p.h. 28 per cent Tapley meter.

ESTIMATED TOP SPEED: 60 m.p.h. (96 k.p.h.).

OVERALL FUEL CONSUMPTION: Over standard test route 65 miles, including numerous stops in acceleration and braking tests, 24·2 m.p.g. (858 km. per 100 litre); for 860 miles London—Glasgow return with 4-cwt. load 30·5 m.p.g. (1,080 km. per 100 litre).

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In the series of lantern lectures prepared by London Transport, entertainment has been combined with information so that Londoners can learn something about London and its countryside, as well as the organisation and working of its transport system. It has been found, however, that these lectures are of very considerable interest to people who live in other parts of the country.

There are some 50 illustrations for each lecture and these are sent either as 3¼ in. slides or on a 35 mm. film strip. There is no charge for the loan of the texts or of the slides or film strip; the only expense to the borrower is the return carriage of slides, or the return postage on the film strip.

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NOTTINGHAM
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West Bridgford
NOTTINGHAM 83461

LONDON 22-24 Bermondsey Wall West, S.E.16 *BERmondsey 4533*

Volkswagen Transporter Test

(*Continued from page 11*)

forward-control van. In the V.W. van, the floor level disadvantage has been reduced by arranging a low-floored forward section accessible through wide side doors and a raised floor over the engine compartment, forming a shallower space reached both from inside and through a top-hinged door in the back panel. In passenger vehicles, this shallow space forms a luggage compartment. The pick-up is given a 45 sq. ft. flat floor behind the cab at a height of about 3 ft. 3 in. and drop sides and tail-board help loading from any direction. An enclosed compartment under the main floor between the axles provides an additional 20 sq. ft. of floor space for flat articles.

Air cooling of the engine reduces weight slightly and removes the maintenance requirements of components associated with liquid cooling and the need for special cold-climate precautions. An additional advantage with the rear-engine rear-drive arrangement is that a long propeller shaft and its maintenance are eliminated. On the other hand, air cooling introduces problems of its own, such as the effects on lubricating oil of operation at higher temperatures—though these are largely obviated with modern additive oils—and the possibility of uneven cooling leading to distortion and undue wear. These contingencies appear to have been provided for in the Volkswagen, since many users have reported large mileages before major attention has been necessary. Minor engine maintenance, such as a top overhaul or tappet adjustment, is likely to take longer, however.

Simple Instruments

The Volkswagen Transporter is not an expensive vehicle and its finish and appointments are probably rather below the standard of contemporary British products. The bench-type seat is firm and non-adjustable and not very conducive to comfort for long spells at the wheel, except perhaps to the driver whose anatomy the driving position fits to perfection. Instruments are of the simplest, comprising a speedometer and mileage recorder in the face of which are set four warning lights indicating semaphore direction indicator out, low oil pressure, headlamp high beam and generator charge—which might also indicate that the belt common to generator and cooling-system fan was slipping or broken. On the other hand, the 6-volt electrical system embodies six fuses which, among other advantages, prevent the loss of both headlamp high beams and both tail lamps at the same time through a blown fuse.

There is no contents gauge for the 8.8-gal. petrol tank, which could be a nuisance if more than one driver used the vehicle as, like most modern vehicles, the tank is difficult to dip, but there is a two-way cock which, in the main position, holds rather more than a gallon (sufficient for about 30 miles) in reserve. The cock is controlled by a knob near the driver and gives warning that replenishment is necessary (provided it is always returned to the normal position after use) in adequate time during daytime when all filling stations are open. The controls we found were all well placed and easy to operate except the gear lever; this, perhaps due to the length of the operating mechanism, was woolly in operation and the guard spring for reverse was much heavier than necessary, making the selection of this gear a tedious business. The Porsche synchromesh mechanism really synchronised the shaft speeds provided the clutch was fully disengaged and any gear from second to top could be engaged cleanly irrespective of road or engine speed.

To Glasgow and Back

As usual with lighter types of vehicle, we had the V.W. pick-up over a period of several days and covered altogether nearly 1,000 miles with it. The major part of the mileage was accounted for in an 800-mile return trip to Glasgow, a further 60 in town driving in London and Glasgow and another 65 over our standard test route in the hilly Kent-Surrey borders. Let us say at once that the Transporter is a vehicle that fully comes up to published brochure performance. The claimed speed of 50 m.p.h. can be comfortably reached and held fully loaded on the open road and, given favourable conditions, 60 m.p.h. is just attainable. With the pick-up, a full 15-cwt. payload and driver can be carried inside the maximum permissible gross weight and the claimed 28.5 m.p.g. (Imp.) appeared attainable under average conditions.

On the round trip between London and Glasgow, for example, which was covered at the high average speed of 36 m.p.h. with a 4-cwt. payload, the average fuel consumption of commercial-grade petrol was 30.5 m.p.g. In the rather more speed-limited non-stop run over our standard 15-mile fuel-consumption route on A25, with a 13½-cwt. payload the consumption was 28.3 m.p.g. at an average speed of 28 m.p.h. An indication of the return likely in heavily loaded frequent-stop operation was given by the overall figure obtained for the 65 miles of our standard test route, which included numerous stops and much full-throttle work in the acceleration, braking and other checks, which worked out at 24.2 m.p.g.

General Handling

Despite a claim to have evolved a front-suspension design with geometry that does not change with varying load, we found the V.W. steering not as precise as it might have been. With light load, for example, up to the 4 cwt. we carried on the long run, there was pronounced oversteer accompanied by sharp breakaway of the rear end on difficult surfaces. This one got used to and could allow for, but with increasing load the oversteer tendency changed to understeer and improved accuracy and stability on fast bends. On the other hand, although the all-independent torsion-bar suspension was rather firm when lightly loaded, in a fairly straight run over a rough cross-country track the vehicle proved exceptionally stable.

Engine Performance

The V.W. engine is not an ideal design for maximum efficiency, with its bore of 3.03 in. and very short stroke of 2.52 in. and long induction pipes from a single carburetter to the inlet ports on the widely spaced cylinder heads. But the flat-four layout is inherently balanced, a short, sturdy crankshaft can be used, the large bore size permits the use of large-area valves and the short stroke gives unusually low piston speed (if this is an advantage, as some claim). In the Volkswagen, piston speed at 3,300 r.p.m., giving 50 m.p.h. in top gear in the Transporter, is only 1,358 ft. per min. In the test, we found the engine always a willing starter but with a rather peaky performance lacking the flexibility and liveliness throughout the speed range normally found in engines of conventional layout. This characteristic is minimised by well-chosen gear ratios and normal fully laden performance translated into figures in our acceleration tests showed that on level road 20 m.p.h. could be reached from rest in an average time of 5.5 sec. and 30 m.p.h. in 11.6 sec.

In direct drive, performance at low speed was sluggish and it took 13 sec. to accelerate from 10 to 20 m.p.h. and 26 sec. to reach 30 m.p.h. Restarting on the 1-in-4¼ gradient of Succombs Hill was possible with some slipping of the clutch to permit the engine to develop sufficient torque. A rather annoying feature of the engine was a tendency to run on after the ignition was switched off, obviously due to some incandescent high spot or carbon in a combustion chamber. The vehicle had covered nearly 2,500 miles when we took it over. A good point was that at the end of our 900-odd-mile run the oil level in the sump had gone down by less than ½ in. on the dipstick and the oil looked as clean as new even when the engine had only just been stopped. Much of the run to Glasgow was made in steady and occasionally heavy rain and irritation was caused by inefficient windscreen wiper blades. Both blades were poor and produced bad blurring of the screen whatever the level of rain.

Brakes

The hydraulically operated brakes were responsive to light pedal pressure in normal slowing down and required fairly stout pedal pressure to achieve maximum deceleration. Rear wheels would lock but not the fronts in four emergency stops which, measured with the chalk-firing magazine, took an average distance of 44 ft. from a speed of 30 m.p.h. on dry level tarmac. There was no evidence of brake fade in our usual Titsey Hill coasting run.

The V.W. 15-cwt. pick-up, which offers more loading space but at a considerably higher level than its British contemporary, costs just over £680 inclusive of British purchase tax. Hoopsticks and a waterproof tilt costs an additional £40. With perhaps fewer of the niceties of finish and equipment found in most home-produced vehicles, it appears sound in construction and excellent value for money. The efficient service at exceptionally low charges of the Volkswagen organisation is a byword and presents perhaps a more formidable competitive point for British manufacturers than the vehicle itself.

Derby-built Diesel-Electric

(*Continued from page 5*)

brake valve in each cab of the locomotive. The operation of this valve also controls, through a vacuum-air proportioning valve, the air brake on the locomotive independent of the driver's straight air valve. The vacuum-air proportioning valve is designed so that the air brake on the locomotive is automatically applied in proportion to and in synchronism with the application of the vacuum brake on the train. It also releases the air brake on the locomotive in proportion to the increase in vacuum in the vacuum train pipe and is, therefore, synchronised with the release of the vacuum brake on the train.

Brake Maintenance

A brake cubicle is provided in which the majority of the brake valves are contained, in order to facilitate maintenance and ensure cleanliness. Each bogie carries four 8-in. Westinghouse horizontal brake cylinders, each incorporating a slack adjuster. Air for the locomotive brakes and for the air-operated control equipment is provided by a Westinghouse DVC2 compressor with a capacity of 39.5 c.f.m. against a pressure of 100 lb. per sq. in. in the main reservoir. Vacuum for the train is provided by two Westinghouse 4V110-G exhausters with a combined capacity of 220 cu. ft. min. at 1,000 r.p.m.

In addition to conventional sanding, the anti-slip brake, already well established on the Continent, makes its first appearance in this country. The anti-slip device consists of two relays, which are fitted singly between the two motors of each bogie. Any variation in speed of the motors creates a voltage differential which causes the indicator light in the cab to glow brightly. When this occurs, the driver eases off the power control lever and presses the anti-slip button which gives a slight brake application through the medium of an electrical impulse to the diaphragm of the air brake valve. Dimming of the indicator light occurs when the slip has been controlled and the power lever may then be opened up. Separate operating switches are provided for the anti-slip brake and for sanding.

Lowering Sulzer-B.T.H. diesel-electric set into D5000-class locomotive at Derby works

Engine

The engine is a Sulzer 6LDA28 pressure-charged six-cylinder four-stroke in line unit rated at 1,160 h.p. at 750 r.p.m. Of the engines five are being supplied from Sulzer Brothers' works in Switzerland, and the remaining 25 to Sulzer orders from Vickers-Armstrongs works at Barrow-in-Furness, where we recently had an opportunity of seeing production in progress. This will be the subject of subsequent reference.

The B.T.H. generator unit comprises three machines: A main generator, an auxiliary generator and a differential exciter. The main generator is a single-bearing, 12-pole separately excited and self-ventilated machine. It is of 735-kW capacity rated at 750-525 volts, 980-1,400 amp. at 750 r.p.m. The auxiliary generator is an eight-pole, separately excited, constant-voltage machine of 32-50 kW, 110 volts, 325-750 r.p.m. The armature is mounted on an extension of the shaft of the main generator. The exciter is a four-pole machine with separate, self and differential series excitation windings and is mounted on an adjustable platform on top of the auxiliary generator frame. It is belt-driven from the main generator shaft extension.

Motors

The traction motors are B.T.H. Type 137 BY and are of the four-pole, force-ventilated type. The continuous rating is 213 h.p., 525 volts, 350 amps, and the hourly rating 209 h.p., 490 volts, 375 amps. There are four nose-suspended motors, two on each bogie, driving through single-reduction gearing. The motors are force-ventilated by two blowers driven by one 12.2-h.p. motor at a continuous rating of 110 volts, 103 amp., at 2,600 r.p.m. Each blower serves a pair of motors.

The motors are axle hung and nose suspended by Metalastik chevron rubber units, which provide a soft vertical suspension and effect a large measure of lateral control of the motor irrespective of side movement of the axle, thus reducing tyre flange wear and improving riding of the locomotive. The gearwheels are of resilient construction and consist of a hub and toothed rim connected through rubber bushes which cushion mechanical shocks due to accelerating forces and track irregularities.

Control

Complete control of the main traction equipment is obtained by a self-lapping air valve operated from the master controller. On moving the power handle away from the "O" position, the load regulator first runs up, increasing the excitation and therefore tractive effort. At a certain point, the main engine characteristic is reached and thereafter engine speed and power rise together, until full rated horsepower is reached. This control is achieved without the use of notching contactors.

Maximum tractive effort is reached at a very low engine speed so that racing the engine to start the train is completely unnecessary. Field weakening is introduced in stages initiated by the generator load regulator. The traction motors are arranged in permanent parallel across the main generator and there are two stages of field weakening. The control gear is mounted in a cubicle near the main generator and includes pneumatic contactors for the four traction motors and electromagnetic contactors for engine starting and motor field weakening.

Battery

The battery is contained in four pull-out boxes suspended from the underframe. Of the first 20 locomotives, 10 will have lead acid DP type RK144 batteries of 48 cells capacity 144 amp.-hr. at the 5-hr. rate, and the remaining 10 will have alkaline Nife type DL15 batteries of 72 cells capacity, 155 amp.-hr. at a 2-hr. rating. Battery charging sockets, external lighting connections and hand inspection lamp sockets, are provided on each side of the locomotive at solebar level.

The engine cooling is a complete by-pass system incorporating self-draining radiators and serves the double purpose of giving full automatic temperature control together with complete frost protection at all times. It incorporates a servo-operated thermostatic by-pass together with four-position control whereby the radiator is progressively brought into operation and the radiator fan speed is progressively increased. Filling and draining points are provided on each side of the locomotive in order to facilitate servicing. In addition a compressed-air connection (10 lb. per sq. in.) is provided at each side of the locomotive to facilitate fuelling from a tank wagon, if necessary.

Fire-Fighting Equipment

A fixed carbon dioxide fire-fighting installation is provided, consisting of three 50-lb. CO_2 cylinders which are manually operated from the driving cabs and from external positions and accessible from ground level. Two 2½-lb. (squeeze grip) CO_2 gas extinguishers and one quart C.T.C. extinguisher are provided in each cab. Fire detectors are also provided through the locomotive and these operate an alarm bell in each driving cab. There is no automatic release of foam, this being under the control of the locomotive crew. Full provision is made for installation of A.T.C. fittings. Lifting and jacking points, including towing eyes, etc., are provided at suitable locations on the locomotive. These facilities have been designed not only for main workshop requirements, but also to assist in re-railing of the locomotive in case of accidents.

(*To be continued*)

The prototype Austin FX4 taxicab now in trial service in London with York Way Motors, Limited, was supplied through the London distributor Mann and Overton, Limited; right, a view through the open fourth door showing luggage area (see page 1)

BY APPOINTMENT TO HER MAJESTY THE QUEEN
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We recently announced that four new types of B.R. Diesel Locomotives are being equipped with built-in "Pyrene" CO_2 Fire Extinguishing Systems. Now we are proud to add the new "D 5000" Series Type 2 1160 H.P. Bo-Bo Diesel Electric Locomotives.

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IMPORTANT CONTRACTS

Daimlers for L.U.T.

AN order has been placed by Lancashire United Transport, Limited, with Transport Vehicles (Daimler), Limited, for the supply of 10 CSG.6-30 double-deck bus chassis. These are the Daimler 18 ft. 6 in. wheelbase chassis, 8 ft. wide for a 30-ft. body, with Gardner 6LW engine, syncromesh gearbox and a single dry-plate clutch. The unit-mounted gearbox is the David Brown SP.450 with Porsche synchronisers on all four forward gears, which has been especially designed for fitment to the Daimler chassis. Variable-rate rear springs are standard on this chassis and give improved riding. An order has also been received from Rotherham Corporation for similar chassis but with the usual Daimler pre-selector and fluid flywheel transmission.

Australian Railway Order For English Electric

A repeat order for 90 motor coaches and 120 trailer coach electric traction equipments, valued at over £1 million, has been placed with the English Electric Co. (Australia), Limited, by Victorian Railways, Australia. In 1956, Victorian Railways renewed 30 seven-car trains built for steam working in the 19th century and converted to electric traction in 1919 with 90 new steel motor coaches and 120 trailer coaches to Gloucester Railway Carriage and Wagon designs to form multiple-unit electric trains for the Melbourne suburban lines. All the electrical equipment for this modernisation programme, designed to give a maximum speed of 80 m.p.h., was manufactured by the English Electric Co., Limited. The success of these units in operation has led to the new order.

Orders for New Chieftain and Claymore

The launching of the new 7-ton Chieftain and the 4- and 5-ton Claymore by Albion Motors, Limited, recently has resulted in well over 200 firm orders placed within a few days of the announcement. Over 100 Chieftains have been ordered so far, half of these being for export to Australia and South Africa. Companies in Britain who have ordered this new versatile 7-tonner, a road test report of which appeared in our July 5 issue, include Glasgow Corporation Cleansing Department and Wade's Transport. Orders for the underfloor-engined Claymore have also topped the 100 mark and customers include such well-known names as Smith's Potato Crisps, W. & R. Jacobs, Prices (Tailors), Callard and Bowser, Scottish Co-operative Wholesale Society, Penrith and District Farmers Society, and Inglis and Company.

New London Midland Contracts

The London Midland Region of British Railways announces the following new contracts:

Kyle Stewart (Contractors), Limited, for renewal of roof covering and vertical screen at Manchester Exchange station.

Leonard Fairclough, Limited, for district electric depot at Longsight, Manchester

Robert Watson and Company, for supply and erection of steelwork at road motor depot, Huskisson Goods Station, Liverpool.

S. and C. Walmsley, Limited, for structural steelwork at diesel maintenance shed, Etches Park, Derby.

Butterley Co., Limited, for supply, fabrication and delivery of girderwork for bridge No. 72 on Water Orton—Wolverhampton line.

John Booth and Sons (Bolton), Limited, Hulton Steelworks, Bolton, for supply, fabrication and delivery of girderwork for bridges on London—Bedford line, bridge at Fazackerley North Junction, Langton and Alexandra Docks, Liverpool, bridge No. 379 on London, Marylebone—Manchester, former G.C. line and bridge No. 122 on Winnington branch.

Kingston (architectural craftsmen), for supply and erection of laminated timber frames to sheds and workshops, new electric depot, Longsight, Manchester.

Another U.S. Airline Buys Viscounts

Vickers-Armstrongs (Aircraft), Limited has announced the sale of nine Viscount-type 745D turboprop air liners to Northeast Airlines, of Boston, U.S.A. The airline has an option on a tenth aircraft, and this option, if taken up, brings the sales of Vickers Viscounts to 400—an appropriate celebration of the tenth anniversary of the maiden flight of the original little Viscount V-630 prototype which first flew on July 16, 1948. Northeast Airlines becomes the fortieth airline and the third U.S. domestic airline to operate or to order Viscounts, some 327 of which are already in service on routes all over the world. The value of the latest order, with spares, is nearly $15 million (£5.35 million).

B.R.S. VEHICLE DESIGN

(*Continued from page 7*)

rake has also been modified to suit the layout.

These alterations enable the driver to reach his seat without having to climb over the front wheel-arch but still reduce overall length as compared with a normal-control vehicle. The body is reached through a sliding door. An extra large windscreen is specially positioned to allow maximum visibility, and the engine cowl, forward of the front bulkhead, a glass fibre reinforced polyester-resin moulding hinges forward and downward to give complete and easy access to the 3.4-litre diesel engine for maintenance and adjustment. The cab is fitted with a Smiths heater and demister.

The body design and materials are conventional, except that a translucent glass fibre roof (now standard practice) is fitted. The half-Luton extension is enclosed by lock-up wiremesh doors. The design is strictly functional and no features have been sacrificed in any way to follow contemporary styling practice. In future production, however, it is intended to embody such details as blended lamp fairings and wings. A 5-ton version is also to be produced on the corresponding B.M.C. chassis. This type of vehicle represents a break-away from B.R.S. parcel van practice, which has been to use standard cabs with hinged doors. Body-builders would be invited to tender for production runs in the 1959 programme.

SHIPPING and SHIPBUILDING

Dock Labour Wages Inquiry

A COURT of inquiry appointed by the Minister of Labour, Mr. MacLeod, under the chairmanship of Lord Cameron, to inquire into the causes and circumstances of the dispute in the docks was to open at 11 a.m. on Thursday this week, at Church House, Westminster. The employers' rejection of a claim for a substantial wage increase for 100,000 dock workers was reported to a national delegate conference of the dock unions in London on Tuesday, when it was decided not to initiate a strike or protest action until the report of the inquiry was known.

The decision to appoint a court of inquiry was taken by the Minister of Labour on the recommendation of Sir Wilfred Neden, his Chief Industrial Commissioner, who had earlier heard the port employers again refuse to make any offer and the unions again refuse to go to arbitration.

Round-the-World with Nuclear Ship

OUT of seven competing lines, the States Marine Lines, of New York, has been assigned operation of the world's first nuclear-powered passenger-cargo liner, the n.s. *Savannah*, when she is commissioned in 1960. The selection was made by the U.S. Atomic Energy Commission and the Federal Maritime Board. States Marine Lines is one of America's largest owners but is basically a cargo line, operating regular services. The Board plans to send the *Savannah* on world routes for display purposes. Sub-agents around the world would be selected to handle the ship in various ports. *Savannah* is being built at the Camden, N.J. yard of the New York Shipbuilding Corporation. The keel was laid on May 22 this year. She will be 595 ft. long and 78 ft. wide, will have accommodation for 60 passengers and her holds will take 9,500 tons of cargo. Her speed will exceed 20 knots, and she will be able to cruise for more than three years on the initial fuelling. Cost, including the pressurised water-type nuclear reactor, is estimated at over £11 million.

Hamburg—North Atlantic Line

SOUTHAMPTON welcomed the 28,500 ton liner *Hanseatic* last week when she called to embark 200 passengers and inaugurate the newly-formed Hamburg-Atlantic Line's Cuxhaven—New York service. The *Hanseatic*—first German Atlantic liner to use Southampton since before the war—is the former Canadian Pacific liner *Empress of Scotland*, bought last January by the Hamburg-Atlantic Line and taken to Hamburg for a refit which has cost about £1,400,000. The liner now has accommodation for 85 first-class and 1,167 tourist-class passengers. Her three original funnels have been replaced by two streamlined aluminium funnels and the modern look is also emphasised by the streamlined wheelhouse and bridge.

On the Cuxhaven—New York service the *Hanseatic* will call at Havre, Southampton and Cobh in each direction. Her cruising speed is 20 knots and she will take six days for the crossing from Southampton to New York. The Hamburg-Atlantic Line is the fourth German shipping company to use Southampton since the war, the other three being Hamburg-America Line, which with Norddeutscher Lloyd operates joint service to the Far East, and Hamburg-South America Line with cargoes of fruit from South America.

TENDERS INVITED

THE following items are extracted from the Board of Trade Special Register Service of Information. Inquiries should be addressed, quoting reference number where given, to the Export Services Branch, Board of Trade, Lacon House, Theobalds Road, London, W.C.1.

August 12—Ceylon.—International Co-operation Administration for four 25-30 ton MACHINERY CARRIERS, six-wheel, with 150 b.h.p. diesel engines. Tenders to Chairman, Tender Board, Ministry of Lands and Land Development (Tender DLF-12), P.O. Box 500, Colombo, 1, Ceylon. (ESB/18507/58/ICA.)

August 12—Ceylon.—International Co-operation Administration for 40 heavy-duty MOTOR TRUCKS, 105-120 b.h.p. compression ignition engines. Tenders to Chairman, Tender Board, Ministry of Lands and Land Development (Tender DLF-11), P.O. Box 500, Colombo, 1, Ceylon. (ESB/18095/58/ICA.)

August 7—South Africa.—Union of South Africa for 200 2-ft. gauge WHEELS AND AXLES. Tenders to Chairman, Union Tender and Supplies Board, Assize Buildings, 291 Bosman Street, Pretoria. (ESB/18606/58.)

August 7—South Africa.—Union of South Africa for 12 oil-engined wheel-type TRACTORS of 40 b.h.p. Tenders to Chairman, Union Tender and Supplies Board, 291 Bosman Street, Pretoria. (ESB/18603/58.)

Israel.—G. Yoffe, for DIESEL ENGINES of 70 to 100 b.h.p. for taxi work. Inquiries to G. Yoffe Enginering, 16 Herze Street, Tel Aviv, Israel. (ESB/17204/58.)

Pakistan.—The East Bengal Railway proposes SIGNALLING improvements on the Dacca—Akhaura, Bhairab Bazar—Narayanganj, Mymensingh and Sylhet sections and the Railway Division of the Ministry of Communications in Karachi has approved the first part of the scheme in principle. Tenders for the first section, for supply, erection and operation for one year, will be issued before March 31, 1959. (ESB/18073/58.)

FINANCIAL RESULTS

NOTES on the trading results dividends and financial provisions of companies associated with the transport industry are contained in this feature, together with details of share issues, acquisitions and company formations or reorganisations.

Lodge Plugs

Profit before taxation earned by Lodge Plugs, Limited, for year ended March 28, 1958, was £50,048 (£41,389); taxation, £34,687 (£32,650), leaving £15,361 (£8,739); net profit after taxation, £15,111 (£7,569). Dividend is 15 per cent (same), amount carried forward £161,528 (£167,980). The comparative figures for 1957 are consolidated and have regard to a loss of £45,708 incurred by the only trading subsidiary, the shares in which were sold in July, 1957.

Brockhouse in the African Federation

J. Brockhouse and Co., Limited, in conjunction with W. G. Allen and Sons (Tipton), Limited, are forming a joint company to be known as Brockhouse Allen, Limited, in the Federation of Rhodesia and Nyasaland. It will operate from factories to be acquired from J. Brockhouse (Rhodesia), Limited, in Ndola and Luanshya, and will produce engineering requirements for the mining and transport industries. J. Brockhouse (Rhodesia), Limited, will continue to act as a separate entity in Southern Rhodesia, where the main products are steel bodies, trailers, dumpers and sheet metal fabrications.

Barclays Bank and U.D.T.

It was announced last week that Barclays Bank, Limited, has agreed to subscribe for 1 million new ordinary £1 shares of United Dominions Trust, Limited, at £4 per share. The consent of the Capital Issues Committee having been obtained to this issue, the necessary steps have been taken and the bank will become the proprietor of 25 per cent of the company's issued ordinary capital. Investment in this class of equity, i.e., hire purchase finance, marks a new departure for one of the "Big Five" banks. The subscription by Barclays for these shares will result in a share premium reserve of £3 million and the U.D.T. directors propose that £1 million of such reserve shall be capitalised and used to pay up in full 1 million 4½ per cent third cumulative preference shares of £1 each and that such shares shall be issued, as fully paid, to the holders of the company's ordinary capital in the proportion of one new share for every £4 of ordinary stock held. In the year ended June 30, 1958, United Dominions Trust achieved a record group profit after taxation of £552,700 (£507,705) and has declared an ordinary dividend of 20 (18½) per cent for the year.

The C.A.V. Automatic Electrical Gear Change Equipment enables a driver to concentrate on his job—safe control of the vehicle. It relieves him of all gear-changing operations, which for a public service vehicle on a busy route may number 4,000 per day. Gear changes are effected strictly in accordance with road speed and engine torque, so that driving is by accelerator and brake only. It makes the driver's job easier and reduces wear and tear on the vehicle. Neutral is automatically selected as the vehicle slows to a stop, and reverse cannot be selected accidentally. An overriding control permits the manual selection of gears if and when required. This equipment is applicable to vehicles with direct-acting epicyclic gear-boxes, using either pneumatic or electro-hydraulic operation.

C.A.V. Automatic GEAR CHANGE Control Equipment

The World's Leading Manufacturers of

Fuel Injection and Electrical Equipment

C.A.V. LIMITED, ACTON, LONDON, W.3

C.A.V.

SOCIAL AND PERSONAL

Honour for L.T.E. Member

AMONG those created barons in the first list of life peers announced last week, to sit in the House of Lords, was Sir Charles John Geddes, C.B.E., a part-time member of the London Transport Executive and a former president of the Trades Union Congress.

* * *

Dr. F. T. Barwell, senior principal scientific officer, Department of Scientific and Industrial Research, has been appointed electric traction engineer (research), Electrical Engineering Department, British Railways Central Staff, as from August 1. In the same department Mr. H. L. Preston, senior technical assistant (electrical multiple-unit equipment) becomes senior technical assistant (inspection).

* * *

It was announced last week that Mr. R. A. Bishop, who controls publicity for the British Motor Corporation and its associated companies, has been appointed to the board of the Nuffield Press, Limited, of which he is already general manager. As general publicity manager to B.M.C., he controls and co-ordinates all home and overseas publicity and advertising activities of the Austin, Morris, Morris-Commercial and Nuffield companies. Mr. Bishop had practical experience in the printing trade "the hard way" before joining the S.M.M.T. as a junior clerk in 1922. From 1924 to 1927 he was with Guy Motors, Limited, at first in the factory, repairs and service departments and then at London office. There followed two years in journalism—the foreign department of *The Times*—before he became publicity manager at Guy Motors and the Star Motor Co., Limited. In 1931 he was publicity manager, Singer and Co., Limited, in 1934 Press officer, Morris Motors, Limited, and then spent some time free-lancing and with the Standard Motor Co., Limited. From 1940 to 1945 he served as Superintendent No. 1 Repairable Equipment Depot, R.A.F., Castle Bromwich, and then, in 1945, was appointed publicity manager, Morris Motors, Limited. When the Nuffield centralisation scheme came into force in March, 1948, Mr. Bishop was appointed general publicity manager of the Nuffield Organisation. He became general publicity manager for B.M.C. in 1954.

Mr. R. A. Bishop

* * *

The Research Association of British Rubber Manufacturers has appointed Dr. W. F. Watson, D.Sc., Ph.D., as director. Its present director, Dr. J. R. Scott, has occupied the post since 1940.

* * *

Mr. P. T. Ensor, formerly general manager of the Canadian British Aluminium Co., Limited, has now returned to the United Kingdom as assistant to the commercial director of the U.K. company.

* * *

Mr. S. L. Hollis has been appointed a director of Guy Motors, Limited. He was formerly a local director and will continue to hold the office of company secretary. He has also been appointed a director of Guy Motors Africa (Pty.), Limited.

* * *

A tour of the Hastings trolleybus system has been arranged by the Norbury Transport and Model Railway Club for Sunday, September 14. The party will travel on the open-top Guy. Inquiries should go to 41 Kilmartin Avenue, S.W.16.

* * *

The new dining-room and lounge bar at St. Pancras, "The Shires," was opened on July 24; it accommodates about 50 and has a combined counter service of drinks and waitress service of light meals and grills

The Mobil Oil Co., Limited, has opened a new branch office in Plymouth to cater for expanded marketing activities in Devon and Cornwall and Mr. I. M. Forbes has been appointed its manager.

* * *

Mr. J. S. Skinner, chairman and managing director of Remington Rand, Limited, was recently awarded a fellowship of the Incorporated Sales Managers' Association.

* * *

We record with regret the death of Sir Herbert Matthews, who was president of the Industrial Transport Association from 1937-1943. He was president of the Mansion House Association, 1920-1926. He was three days short of 88.

* * *

A delightful cocktail party marked the housewarming ceremonies on July 29 of the new Air France headquarters for Great Britain and Ireland at Air France Building, 158 New Bond Street, London, W.1.

* * *

Mr. W. R. Smith, staff assistant to the chief mechanical and electrical engineer and carriage and wagon engineer, Eastern and North Eastern Regions, B.R., Doncaster, retired on July 26 after nearly 47 years' service. He entered the service of the Great Eastern Railway in 1911 as a junior clerk and went into the L.N.E.R. chief mechanical engineer's headquarters office at Kings Cross in 1928. Mr. Smith remained in the staff section of this office until the reorganisation of that department in 1950. Thereafter, on the formation of the chief mechanical and electrical engineer's department and the carriage and wagon engineer's department Mr. Smith was appointed senior staff clerk (wages) in the joint staff office covering both departments from which post he was appointed staff assistant as noted above in 1953.

Institution of Highway Engineers

H.R.H. Prince Philip, Duke of Edinburgh, has consented to become president of the Institution of Highway Engineers during the year 1960-61, the 30th year of its incorporation.

* * *

We record with regret the death, at the age of 73, of Mr. W. Greenall, who for many years was responsible for transport matters to the Master Spinners Federation in Lancashire.

* * *

The death is announced of Mr. F. Orrell, proprietor of Orrell and Brewster (Transport), Limited, Gateshead. He commenced business some 40 years ago; this business, Northumbrian Transport Services, Limited, was nationalised but he re-entered the haulage field via another company.

* * *

Mr. F. K. Pointon, A.M.Inst.T., who, as recorded in our last issue, has been appointed general manager of East Midland Motor Services, Limited, will succeed Mr. S. J. B. Skyrme, who is moving to the Potteries Motor Traction Co., Limited. He joined the traffic department of the Potteries Motor Traction Co., Limited, in 1947 after service in the R.A.F. and was then with Ribble for three years under the British Electric Traction group's training scheme, returning to P.M.T. as commercial assistant in December, 1951. Since June, 1953, he has been general manager of Hebble Motor Services, Limited.

Mr. F. K. Pointon

* * *

The Minister of Transport has appointed Mr. Laurence J. Calshaw, F.C.A., and Mr. Jocelyn F. T. Nangle, F.C.A. to be the auditors of the accounts of the British Transport Commission for the year 1958.

* * *

General Sir Brian Robertson, having attained the age limit for liability to recall, ceases to belong to the Reserve of Officers from July 22, 1958, announces the *London Gazette*. Sir Brian Robertson is chairman of the British Transport Commission.

* * *

Benzole Producers, Limited, announces that Mr. A. Hittinger, who is 74, has decided to resign from the board. Mr. Hittinger joined the National Benzole Co., Limited, in 1919 shortly after its formation. He became secretary in 1920, general manager in 1926, managing director in 1938 and chairman in 1948-55.

* * *

H.E. Shaikh Fahad As-Salim As-Sabah, president of the Development Board and Public Works Department of the Government of Kuwait, has appointed Messrs. Frederick S. Snow and Partners as consulting engineers for the development of the new Kuwait international airport under the direction of Fuad Abdel-Baki, Inspector-General of the Public Works Department. The airport is planned to be to class A1 I.C.A.O. standard for 24-hour use.

* * *

We greatly regret to record the death, at the age of 74, of Mr. H. J. Greene, M.C., who was chief engineer (civil) of the London Passenger Transport Board until ill-health forced his retirement in 1943. Mr. Green received his engineering training in Canada, being employed on the Grand Trunk Pacific Railway. After service in the Royal Engineers in the 1914-18 war, wherein he was awarded the Military Cross, Mr. Green joined the Metropolitan Railway as assistant engineer. On the formation of the L.P.T.B. he became assistant civil engineer and ultimately chief engineer (civil) in 1940. He was latterly a director of the Elastic Rail Spike Co., Limited.

The Duke of Norfolk with Driver Brookes in the cab of No. 70048 "Territorial Army" (L.M.R.) which he named last week

The British Institution of Radio Engineers has announced that its premier award, the Clerk Maxwell premium, is to go to Dr. T. B. Tomlinson, B.Sc., Ph.D., A.M.Brit.I.R.E., for his paper "Principles of the Light Amplifier and Allied Devices." This was based on work carried out at the research laboratories of the General Electric Co., Limited; he is now with Computer Developments, Limited. The Heinrich Hertz premium has been awarded to Mr. R. A. Waldron, B.A. (Cantab.), A.M.Brit.I.R.E., of the Baddow Research Laboratories of Marconi's Wireless Telegraph Co., Limited, for his paper "Theory of the Helical Waveguide of Rectangular Cross-section," and the Brabazon premium for the most outstanding paper on radio aids to aircraft safety has been won by Mr. W. Kiryluk (Burndept, Limited) for his paper, "The Talbe—a v.h.f. C.W. Radio Aid for Air-Sea Rescue."

COMPANY MEETING

THE BRITISH ELECTRIC TRACTION COMPANY, LIMITED

The Warning of the Bus Strike

OPTIMISM FOR THE FUTURE

Mr. H. C. Drayton's Review

THE sixty-second annual general meeting of the British Electric Traction Company, Limited, was held on July 24 in London. Mr. H. C. Drayton, Chairman of the Company, in the course of his address, said:

The Group gross profit for the year is £5,244,000, an increase of £185,000 on the previous year. From this, however, has to be deducted depreciation of £1,128,000, an increase of £266,000 on the previous year, and this increase arises in the main from the depreciation for a full year of the assets of the Canadian Company. After deducting Auditors' remuneration and interest charges, there is a Group profit for the year before taxation of £3,687,000, a reduction from the previous year of £236,000. I believe the year under review is a passing phase and what might be termed a pause or resting place.

United Kingdom Bus Companies

Last year when I met you we were in the midst of a strike of provincial busmen, involving our various bus undertakings in this country. At that time the Minister of Labour had decided to submit the dispute to the Industrial Disputes Tribunal, and the Unions had refused to co-operate and had preferred to call a strike. The Tribunal gave its award which was an increase of 11s. per week on the basic rates. Although the award was binding on both parties, the Unions had indicated that they would not accept it if it did not meet with their approval. However, they called off the strike after it had run for nine days, so presumably the award was a generous one. It was the first strike experienced by the provincial bus industry on a national scale since the General Strike in 1926. It came at the most difficult time from the point of view of the public—at the height of the holiday season—and many passengers who had booked their holidays by long-distance coaches had to cancel and forgo their holidays. A more permanent loss, however, is that many of our regular travellers have adopted other means of transport, rail, their own cars or motorbikes, and have not returned, and may never return, to bus travel.

Less than nine months after the strike, the provincial bus companies received from the Unions a further demand for a wage increase and other additional benefits, and negotiations are now taking place. The experience of last year has sounded a serious warning to those engaged in the provincial bus industry. We have lost passengers as a result of the strike. We have also lost more passengers as a result of having to increase fares to meet the higher wages, and, what is more serious, we have found that traffic receipts have fallen despite the higher fares. To meet these increased costs serious consideration has had to be given to our unremunerative route mileage which is approximately 4o per cent. We have found we cannot afford to run so large a proportion of unremunerative services.

Taxation

I have told you of the excessive tax which we have to pay on our fuel oil which amounts to 2s. 6d. per gallon used by public service vehicles. As regards our buses; to give you an idea of what we pay and to put our taxation into an understandable form, we have to pay 4.31d. every time one of our buses travels one mile, and I suggest that is too much for a sleeping partner to take who does little or nothing towards earning it. In the last Budget there was no reduction, but what is more to the point we had further severe taxation put upon us. From the time when statutory undertakings, including omnibus companies, were first made liable to profits tax, they have been charged at the lower rate, namely 3 per cent on all their profits. Now it is proposed to abolish that rate and to replace it by a flat rate of 10 per cent on the whole of our profits. If the Finance Bill becomes law in its present form—and there is every indication it will do so—this extra profits tax, we estimate, will cost our associated omnibus companies about £360,000 more in a full year. One begins to wonder whether we are performing any service to the public at all, or whether we are regarded as parasites and to be taxed on a penal basis with a view to eventually eliminating us. One thing stands out a mile—we certainly have not received any encouragement from the Treasury.

Overseas Interests

During the year our Canadian Company increased their fleet from 1,700 vehicle units to 1,875 units. Our interests in Canada continued to do well until the Fall, when we were hit by the recession, and profits swiftly tailed off. However, this adversity enabled us to reorganise and consolidate our Canadian undertakings and work together much more quickly than if we had gone on being prosperous. As a result of whole-hearted co-operation and working together the business was put on a sounder footing and today is working at a monthly profit.

It is now four years since we started running buses in Kingston, Jamaica. When we started operations there the bus industry was in a chaotic condition. We negotiated a new franchise and we have built up an efficient and reliable service. This entailed sinking much money in new vehicles, garages, etc., which have been profitable both to us and to the people of Kingston by the service we provide. There have been three increases in wages for our work people since we started operation, all of which cost the Company money, but which we have been able to absorb without increasing fares to the public. The Unions are now demanding a fourth increase, but it is so large that there is no basis upon which we can negotiate. Consequently the matter will go to arbitration. We know from experience that demands for increased wages are a part of any business and we, recognising this, accept that position. But what I must voice and bring into the open is that the increases which are awarded under arbitration in Jamaica are made retroactive. This is most unfair and any further increase in costs will mean applying for increased fares. However, we are still of the opinion that with fair treatment we have a profitable business. There is a marked shortage of skilled fitters which the company badly needs for the maintenance and the expansion of its services.

Our interests in East Africa—that is in Kenya, Tanganyika and Uganda—continue to make steady progress in a quiet way.

Rhodesia United Transport in which we have a big interest has had another successful year resulting in a record profit and a moderate increase in dividend. This company is ploughing back a large proportion of its profits with a view to expansion and improving its services to the public. The subsidiary company, formed to undertake the transport contract in connection with the building of the Kariba Dam, to which I referred last year, made a modest contribution to the profits. The Rhodesian Company's passenger and freight services continue to forge ahead, although we have many problems which are peculiar to that area, and one of these could be solved if the various governments through whose territories long-distance services run would adopt a common code of legislation on transport matters.

I was in Rhodesia this year, where I met Mr. John Watts, who is chairman of the company and whose vigorous direction makes us feel satisfied with our participation and gives us confidence that the future will show increased earning capacity.

Other Interests

During the year the confidence we placed in Associated-Rediffusion, Limited, that is the independent television company, has been more than fully justified. We realised when we entered this business there would be heavy losses in the initial period of operation, though I must say they were greater than I anticipated. These losses were financed by means of temporary advances, and I am pleased to say that at the 31st March we had had substantial repayments. Since the close of the year, the company has either repaid or made arrangements to repay the balance of its indebtedness. We have a major interest in the equity in this company, and in the current year we can look forward to receiving dividends from this source.

In August last year Broadcast Relay Service changed its name to Rediffusion, Limited. The company has again had a most successful year and has once more produced record profits.

The results of our subsidiary, Advance Laundries, Limited, for the last year have taken a step forward and the company has reported a 28 per cent increase in its Group working profit, and a useful increase in its final dividend. During the year the parent company, that is your Company, took up additional Ordinary shares to provide for the further development of the company's "Towelmaster" service. I look forward to the results for the current year being quite as good as those for the past year.

Eddison Plant, Limited, which hires road-making and contractors' plant, was hit by the heavy reduction in work on road construction following the Suez crisis and the tightening of money, and in consequence had a somewhat less successful year. However, there are signs of revival in this business and if the Government will recognise its obligations in this country for the need of a good road system, we can look forward to this company building up into a very successful business. I would like to add the company is now busier than it was a year ago.

The Future

Last year when I met you I mentioned that the Company could look forward in the following two or three years, that is this year and next, to reaping the reward from the new businesses we have entered. I see no reason to modify these remarks in any shape or form, and I would like to emphasise that in the current year I expect the income of your Company to show a substantial increase, provided there is no setback in our omnibus business in this country or a recession.

The report and accounts were unanimously adopted.

CLASSIFIED ADVERTISEMENTS

SITUATION VACANT

SKILLED or semi-skilled Motor Mechanic required for large engineering firm near Wembley. Pension fund, sports club, canteen, etc. Apply with full details of experience to Box No. 3793, MODERN TRANSPORT, 3-16 Woburn Place, London, W.C.1.

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OFFICIAL NOTICE

COUNTY BOROUGH OF WARRINGTON

TRANSPORT DEPARTMENT

TENDERS are invited for the advertising rights on the Corporation's double-decked motor buses.

Forms of Tender may be obtained from the Transport Manager, Bank Street, Warrington, and should be returned, addressed to The Chairman, Passenger Transport Committee, by August 18, 1958, endorsed "Tender."

J. P. ASPDEN,
Town Clerk,
Town Hall,
Warrington.

July 23, 1958.

Follsain-Wycliffe
FOUNDRIES LTD

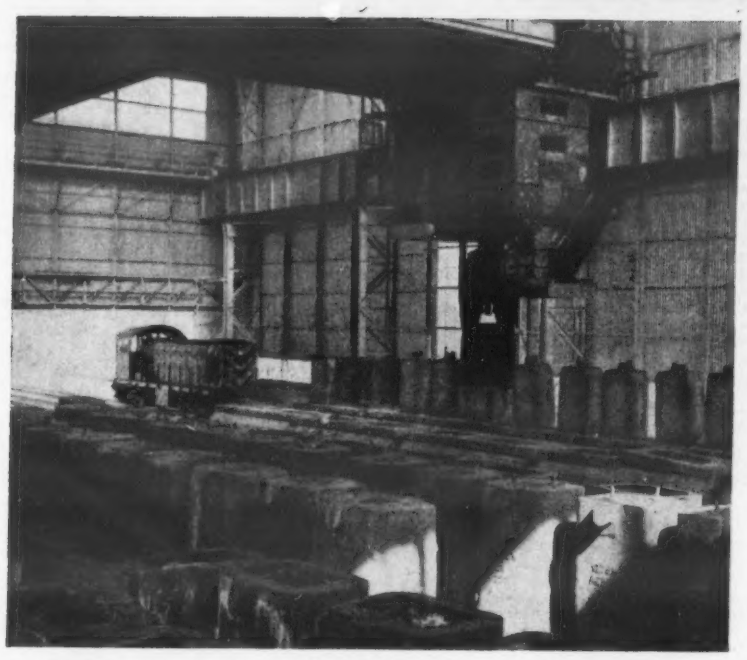
SPECIALIST PRODUCTS IN CY REGD.
ABRASION-RESISTING ALLOY

LOCO BRAKE BLOCK LIFE extended from 3 months to 2½ years

This is typical of the extra service being obtained from our CY Alloy Brake Blocks—which although remarkably resistant to wear, have no adverse effect on loco tyres. This is one of our most popular applications. After exhaustive tests many of the best known manufacturers of locomotives fit CY brake blocks as standard.

FOLLSAIN-WYCLIFFE FOUNDRIES LTD.
LUTTERWORTH • Near RUGBY
Tel.: Lutterworth 10, 60 & 152
Grams: "Wycliffe," Lutterworth

Molten iron being charged into an open hearth furnace at Abbey Works

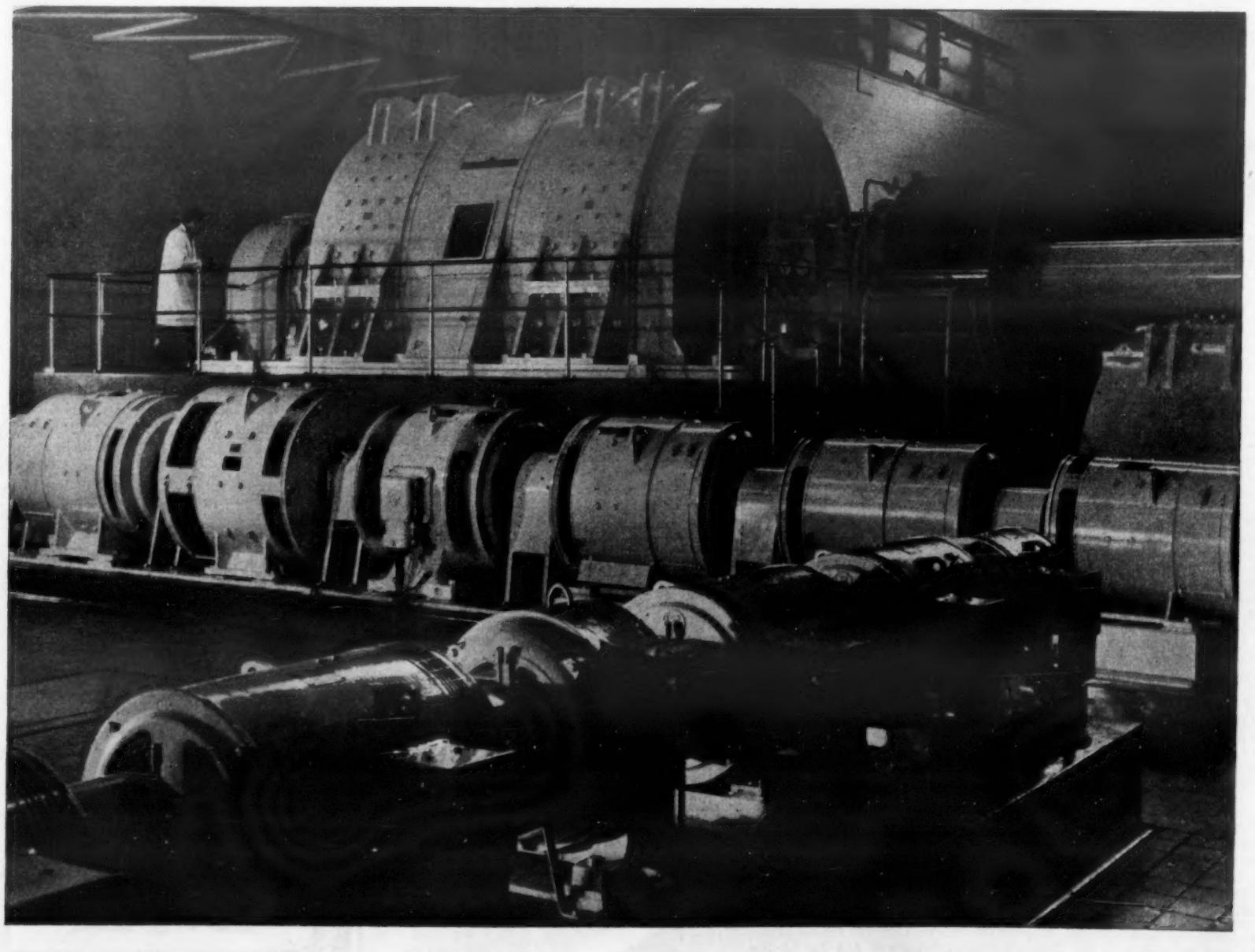


The ingot stripper bay at Abbey Works

One-third of Britain's SHEET STEEL is made by

THE STEEL COMPANY OF WALES LIMITED

The slabbing mill motor room at Abbey Works



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